REPORT NUMBER KAR21003-02

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

FORD MOTOR COMPANY
2001 FORD EXPLORER XLT
4WD SUV
NHTSA NUMBER: M10204

PREPARED BY:
KARCO ENGINEERING
9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301

DECEMBER 20, 2000

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY PERFORMANCE STANDARDS
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NPS-10
400 SEVENTH STREET, SW, ROOM 5313
WASHINGTON, D.C. 20590

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-99-D-02041.

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: _____ Date: December 20, 2000
Mr. James E. Gorth, Project Engineer
KARCO Engineering

Reviewed by: _____ Date: December 20, 2000
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Approved by: _____ Date: December 20, 2000
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

FINAL REPORT ACCEPTED BY:

_____
Manager, Side Impact NCAP

_____
Date of Acceptance

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipients Catalog No.
KAR21003-01		

4. Title and Subtitle	5. Report Date
Final Report of New Car Assessment Program Testing Side Impact Testing of a 2001 Ford Explorer XLT 4WD SUV NHTSA NO. M10204	December 20, 2000 6. Performing Organization Code KAR

7. Author(s)	8. Performing Organization Report No.
Mr. James E Gorth, Project Engineer, Karco Mr. Frank Richardson, Project Manager, Karco	KAR21003-01

9. Performing Organization Name and Address	10. Work Unit No.
KARCO Engineering 9270 Holly Road Adelanto, CA 92301	11. Contract or Grant No. DTNH22-99-D-02041

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation National Highway Traffic Safety Administration Safety Performance Standards Office of Crashworthiness Standards Mail Code: NPS-10 400 Seventh Street, SW, Room 5313 Washington, D.C. 20590	Final Test Report Option Year 1 14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS

15. Supplementary Notes

16. Abstract

A 55/28 km/h 90^{o} Moving Deformable Barrier Side Impact NCAP Test was conducted on the subject 2001 Ford Explorer XLT 4WD SUV in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at KARCO Engineering laboratories in Adelanto, California, on November 30, 2000.

The impact velocity of the Moving Deformable Barrier was 61.86 km/h, and the outside ambient temperature at the struck side (driver's) of the vehicle was 16.6 C. The target vehicle's maximum post test static crush was 346 mm located at level 3. The test vehicle's occupant performance is as follows:

Measurement Description	Driver SID	Passenger SID
Left Upper Rib (LUR) G's	24.8	35.4
Left Lower Rib (LLR) G's	28.6	34.0
Lower Spine (T_{12}) G's	35.8	28.6
Thoracic Trauma Index (TTI) G's	32	32
Pelvis (PEV) G's	51	44

17. Key Words	18. Distribution Statement
New Car Assessment Program (NCAP) Side Impact Moving Deformable Barrier (MDB) Side Impact Dummy (SID)	Copies of this report are available from: National Highway Traffic Safety Admin. NHTSA Technical Reference Division 400 Seventh St., SW, Room 5108 Washington, DC 20590

19. Security Classification(of this report)	20. Security Classification(of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	283	

Form DOT F1700.7 (8-72)

TABLE OF CONTENTS

SECTION 1

PURPOSE and TEST PROCEDURE

1.1 PURPOSE

This Side Impact NCAP test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-99-D-02041. The purpose of this test is to generate comparative side impact data on a 2001 Ford Explorer XLT 4WD SUV manufactured by Ford Motor Company.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Crashworthiness Standards (OCS), laboratory test procedure NCAP Side Impact Testing, dated July 1997 and the corresponding KARCO Engineering Test Procedure KTP-214D, dated November 18, 1998. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT NCAP TEST

A model year 2001 Ford Explorer XLT 4WD SUV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.86 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 2237 kg, and the test weight of the MDB was 1361 kg. The test was conducted at KARCO Engineering in Adelanto, California, on November 30, 2000.

One (1) real-time motion picture camera and eleven (11) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and SID can be found in Appendix A. Two 50th percentile adult male Side Impact Dummy's (SID's) were placed in the driver's and left rear passenger designated seating positions according to the test procedure. Each SID is instrumented with contact switches on the pelvis and thorax, and eleven accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes)

The test vehicle was instrumented with twenty-five (25) structural accelerometers and the MDB was instrumented with five (5) accelerometers and a one (1) contact switch on the right bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board Test Data Acquisition System (TDAS). The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 346 mm at level 3, 1350mm rearward of the left vertical impact point. The driver SID, Serial No. 274 and the passenger SID, Serial No. 275 were calibrated just prior to this test. The SID injury criteria is summarized as follows:

Measurement	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	32	32
Peak Pelvic G's (PEV)	G's	51	44

Tests summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID's, vehicle, and MDB response data traces. Appendix C contains the SID's Configuration and performance verification data. Appendix D contains the test equipment information.

SECTION 3

SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No. M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in^2	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	^oF	^oC	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

TEST VEHICLE INFORMATION

Make	Ford
Model	Explorer
Body Style	SUV
NHTSA No.	M10204
VIN	1FMZU73E61ZA12142
Color	Black
Delivery Date	11/21/00
Odometer Reading (mile)	66
Dealer	Fairview Ford
Transmission	4-Speed Automatic
Final Drive	4WD
Number of Cylinders	6
Engine Displacement (L)	4
Engine Placement	Longitudinal

TEST VEHICLE OPTIONS

Driver Airbag	Yes
Passenger Airbag	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	Yes
Anti-lock Brakes	Yes
AM/FM/Cassette	Yes
Anti-Theft System	No
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Company
Date of Manufacture	August-00

GVWR (kg)	2422
GAWR Front (kg)	1229
GAWR Rear (kg)	1338

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	207	207
Cold Pressure (kPa)	207	207
Recommend Tire Size	P225/70/R16SL	P225/70/R16SL
Tire Size on Vehicle	P225/70/R16SL	P225/70/R16SL
Tire Manufacturer	Firestone	Firestone

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	N/A	
Number of Occupants	2	3	N/A	5
Capacity Wt. (VCW) (kg)				467
Cargo Weight (RCLW) (kg)				127

DATA SHEET NO. 1…(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

TEST VEHICLE WEIGHTS

	Units	As Delivered *(UVW)*			As Tested *(ATW)*		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	555	460		590	574	
Right	kg	499	441		518	555	
Ratio	%	53.9	46.1		49.5	50.5	
Totals	kg	1054	901	1955	1108	1129	2237

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight *(UVW)*	kg	1955
Weight of 2 P572F Side Impact Dummies	kg	161.5
Rated Cargo/Luggage Weight *(RCLW)*	kg	127
Calculated Vehicle Target Weight *(TVTW)*	kg	2244

*Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	850	860	839	841	1310
As Tested	mm	848	858	805	812	1434
Fully Loaded	mm	841	858	801	810	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2842
Total Vehicle Length at Left Side	mm	3557
Total Vehicle Length at Centerline	mm	4841
Total Vehicle Length at Right Side	mm	3515
Weight of Ballast In Cargo Area	kg	108
Amount of Stoddard Solvent in Fuel Tank	Liters	77.4

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2842
Target Impact Point Aft of Front Axle	mm	481
Actual Impact Point Aft of Front Axle	mm	511

DATA SHEET NO. 1…(continued)

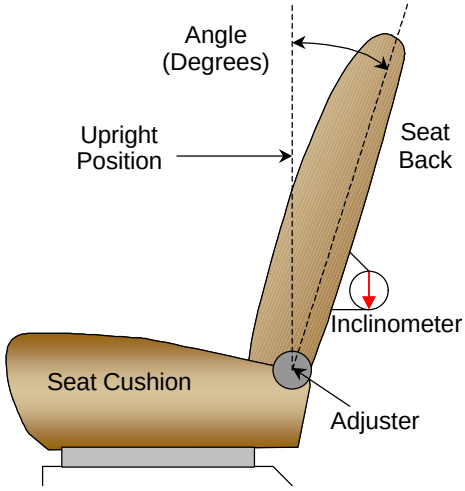
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No. M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

NOMINAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturers designated angle. The procedure for the seat is as follows: A slit is cut into fabric of the seat at the outboard edge, approximately 10-13 inches above the pivot point to expose the frame of the seat. An inclinometer is firmly placed against the flat portion of the frame surface and the seat back is adjusted to the manufacturers designated angle.



FRONT SEAT ASSEMBLY

Driver seat back angle: 20° with a seated dummy

Rear seat back angle: 19°, seat back is fixed

SEAT FORE/AFT POSITIONS

The driver's seat is adjustable. The fore/aft is set to the middle position.

Driver seat fore/aft total travel: 248mm of travel

Rear seat fore/aft total travel: Seat is fixed

Driver seat fore/aft position: 124mm aft of forward most

Rear seat fore/aft position: Seat is fixed

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with an adjustable "D" ring anchorage for the driver's seat position. There are 5 positions or detents. The driver's "D" ring anchorage is placed in the middle position. The left rear passenger seat anchor is fixed, no adjustments.

DATA SHEET NO. 1…(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No. M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

FUEL TANK CAPACITY DATA

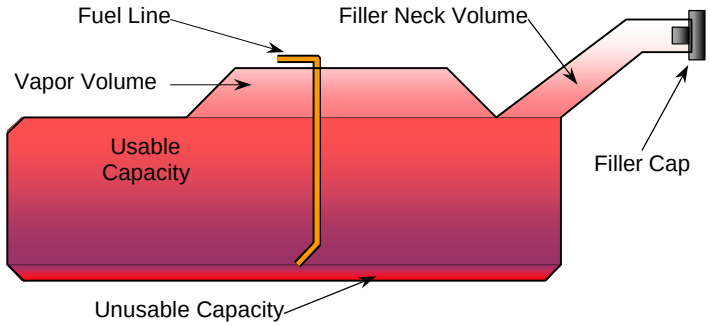
The “Usable Capacity" of the standard equipment fuel tank is: 83.2 liters

The “Usable Capacity" of any optional equipment fuel tank is: N/A liters

92-94% of “Usable Capacity” for certification to FMVSS 301 requirement: 76.6 to 78.2 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 77.4 liters

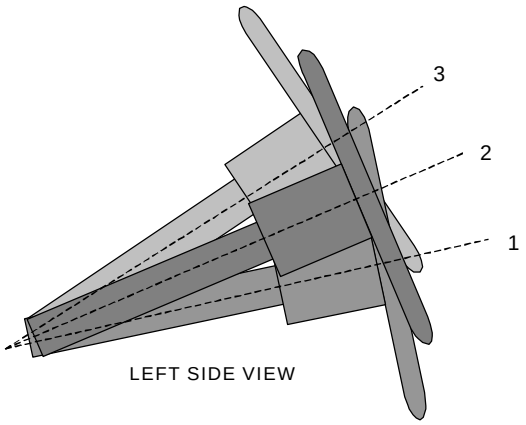
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately three (3) seconds with the ignition in the “ON” position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set at position 2 as indicated in the drawing at right and the angle below. The steering column has 5 positions or detents and is set to the middle position.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 14°

Geometric center, position 2: 21°

Uppermost, position 3: 28°

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

TEST VEHICLE WEIGHTS

	Units	As Delivered *(UVW)*			As Tested *(ATW)*		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	555	460		590	574	
Right	kg	499	441		518	555	
Weight Ratio	%	53.9	46.1		49.5	50.5	
Totals	kg	1054	901	1955	1108	1129	2237

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	284	400
Level 2	Occupant H-Point	mm	328	815
Level 3	Mid Door	mm	346	748
Level 4	Window Sill	mm	248	1071
Level 5	Window Top	mm	55	1630
N/A	Maximum Penetration	mm	346	

INSTRUMENTATION

Driver SID Accelerometers	11
Passenger SID Accelerometers	11
Vehicle Structure Accelerometers	25
MDB Accelerometers	5
Total	52

16mm MOVIE COVERAGE

High Speed, Vehicle On-Board	3
High Speed, Off-Board	6
High Speed, MDB On-Board	2
Real Time, Panning	1
Total	12

DATA SHEET NO. 3
MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

MDB SPECIFICATIONS (mm)

Measurement Description	Length
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2590
C.G. Location aft of Front Axle	1127

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	384	308	
Right	kg	385	284	
Ratio	%	56.5	43.5	
Totals	kg	769	592	1361

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.86
Trap No. 2 Velocity (Redn.)	km/h	61.1 to 62.7	62.30
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max
Row	Description	Height	Distance	Direction	Crush
A	Center of Bumper	432	800	Left	103
B	Top of Bumper	533	800	Right	139
C	Mid Level	686	800	Left	139
D	Top of Stack	813	800	Right	182

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

DATA SHEET NO. 4
POST TEST OBSERVATIONS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	P572F, SID / No. 274	P572F, SID / No. 275
Head Contact	Side Header/Door Window	Door/Window/B-Pillar
Upper Torso Contact	Door/Window	Door Panel
Lower Torso Contact	Seat/Door Panel	Door Panel
Left Knee Contact	Door Panel	Door Panel/Knee
Right Knee Contact	Knee	Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Left Side Door Opening	Opened at impact	Remained closed, inoperable
Right Side Door Opening	Remained closed operable	Remained closed, operable
Seat Movement	None	None
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Pillars pushed inward with no apparent failure
Sill Separation	No Apparent Visible Failure
Windshield Damage	Glazing Cracks on Struck Side Only
Window Damage	Both windows were intact
Other Notable Effects	No significant items to note.

AIR BAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	N/A
Side	N/A	N/A	N/A

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	30 (right)
Vertical Offset	mm	+/- 20	8 (below)

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5
SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

THORAX AND PELVIS PEAK ACCELERATIONS, PRIMARY (FIR 100 Filtered)

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	24.8	60.5	-3.9	114.7	35.4	98.6	-15.7	103.7
Lower Rib (LLR)	Y	G's	28.6	44.9	-4.4	90.5	34.0	49.2	-18.1	103.5
Lower Spine (T_{12})	Y	G's	35.8	47.9	-5.7	70.9	28.6	48.8	-10.1	117.5
Pelvis (PEV)	Y	G's	51.5	42.0	-6.3	106.3	43.9	32.3	-15.7	90.1

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, PRIMARY (FIR 100 Filtered)

	Driver				Passenger			
Location	LLR	T_{12}	TTI(g)	PEV(g)	LUR	T_{12}	TTI(g)	PEV(g)
Primary Rib, Spine, and Pelvis	28.617	35.759	32	51	35.397	28.591	32	44

THORAX AND PELVIS PEAK ACCELERATIONS, REDUNDANT (FIR 100 Filtered)

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	25.0	60.3	-3.4	115.2	35.2	98.5	-14.5	103.7
Lower Rib (LLR)	Y	G's	28.6	45.0	-3.9	90.2	33.8	49.4	-17.7	103.5
Lower Spine (T_{12})	Y	G's	35.2	48.0	-6.3	70.9	28.9	48.8	-9.7	117.4
Pelvis (PEV)	Y	G's	51.4	42.1	-6.3	104.3	43.3	32.2	-16.4	90.6

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, REDUNDANT (FIR 100 Filtered)

	Driver				Passenger			
Location	LLR	T_{12}	TTI(g)	PEV(g)	LUR	T_{12}	TTI(g)	PEV(g)
Redundant Rib, Spine, and Pelvis	28.620	35.174	32	51	35.189	28.942	32	43

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	6.2	46.1	-11.4	103.9	58.8	189.8	-33.8	99.4
Head CG	Y	G's	37.8	89.4	-11.9	52.7	57.4	63.8	-15.3	189.9
Head CG	Z	G's	65.6	89.5	-10.0	81.6	68.3	99.1	-11.3	106.2
Head CG Resultant	N/A	G's	75.5	89.5			80.0	99.4		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

	Driver				Passenger			
Location	HIC	T^1	T^2	Avg G	HIC	T^1	T^2	Avg G
Head CG	193.9	72.6	108.5	31.1	153.5	89.2	102.5	42.0

Positive Acceleration Polarities: Longitudinal (X) = Forward
(Conforms to SAE J211) Lateral (Y) = Right
Vertical (Z) = Down

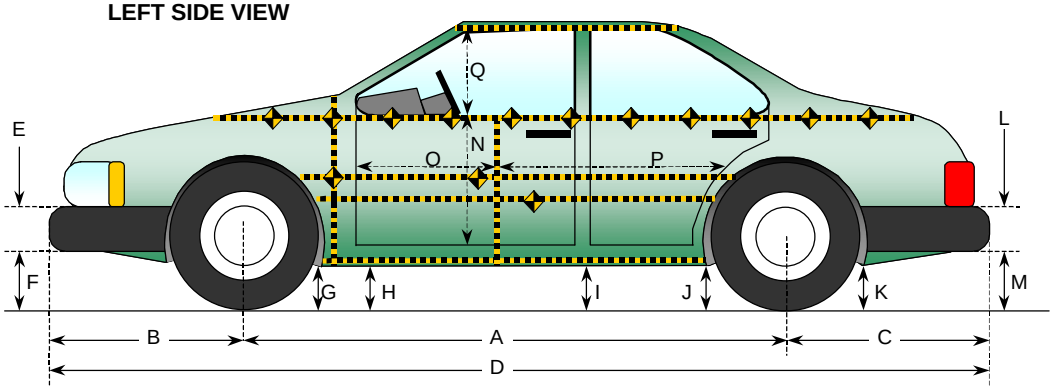
DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

LEFT SIDE VIEW



All Measurements in mm

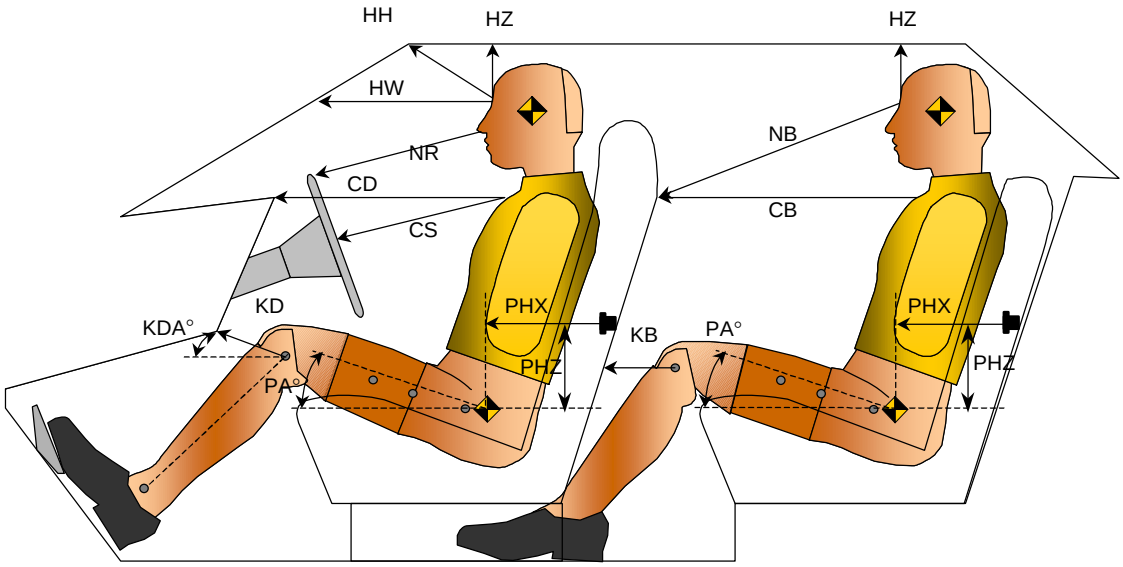
Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2842	2823	-19
B	Front Axle To FSOV	890	907	17
C	Rear Axle to RSOV	1111	1013	-98
D	Total Length at Centerline	4841	4828	-13
E	Front Bumper Thickness	318	318	0
F	Front Bumper Bottom to Ground	376	366	-10
G	Sill Height at Front Wheel Well	348	342	-6
H	Sill Height at Front Door Leading Edge	344	303	-41
I	Sill Height at "B" Pillar	342	350	8
J1	Sill Height at Rear Wheel Well	332	318	-14
J2	Pinch Weld Height at Rear Wheel Well	336	318	-18
K	Sill Height aft of Rear Wheel Well	388	364	-24
L	Rear Bumper Thickness	180	180	0
M	Rear Bumper Bottom to Ground	446	415	-31
N	Sill Height to Window Bottom Sill	652	670	18
O	Front Door Leading Edge to Impact CL	737	710	-27
P	Rear Door Trailing Edge to Impact CL	1281	1210	-71
Q	Front Window Opening	494	495	1
R	Right Side Length	3515	3630	115
S	Left Side Length	3557	3530	-27
T	Vehicle Width at "B" Post	1776	1555	-221

DATA SHEET NO. 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



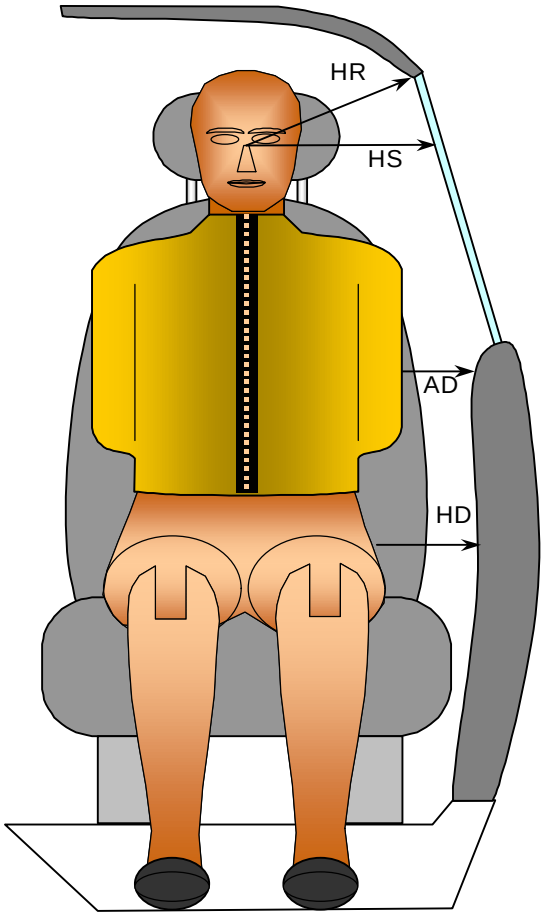
Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	341	23		
HW		Head to Windshield	512			
HZ	HZ	Head to Roof	182	90	205	90
NR	NB	Nose to Rim/Nose to Seatback	329	12	630	2
CD	CB	Chest to Dash or Seatback	435	5	622	15
CS		Chest to Steering Wheel	240	14		
KDL	KBL	Left Knee to Dash or Seatback	107	23	295	
KDR	KBR	Right Knee to Dash or Seatback	95		301	
PA	PA	Pelvic Angle		23		25
PHX	PHX	H-Point to Striker (X-Axis)	260		222	
PHZ	PHZ	H-Point to Striker (Z-Axis)	100		140	

DATA SHEET NO. 8

SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



FRONT VIEW OF DUMMY

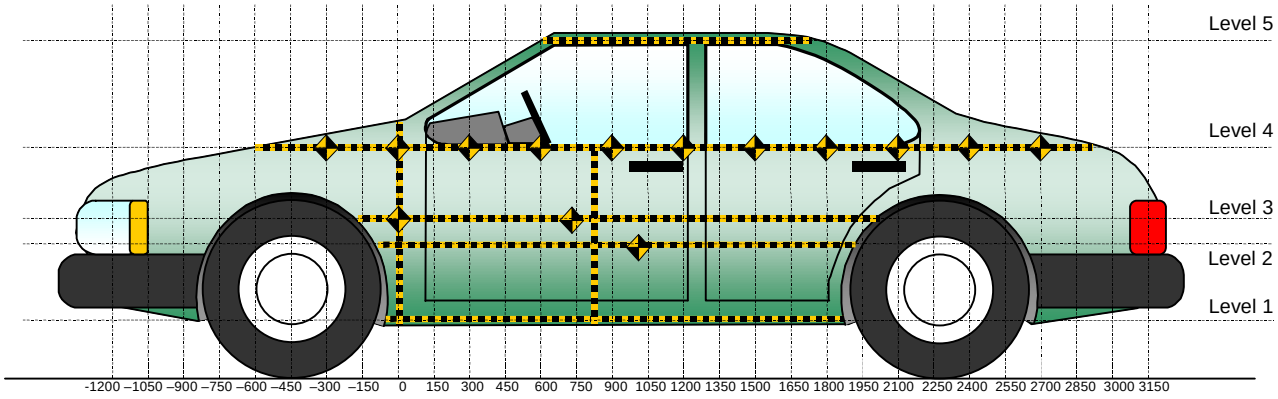
Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	275	241
HS	Head to Side Window	mm	330	295
AD	Arm to Door	mm	185	52
HD	H-Point to Door	mm	142	76

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.
Measurments taken 900mm right of impact reference.
All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window Top	1630
4	Window Sill	1071
3	Mid Door	748
2	Occupant H-Point	815
1	Sill Top	400

DATA SHEET NO. 10 - VEHICLE EXTERIOR CRUSH PROFILES

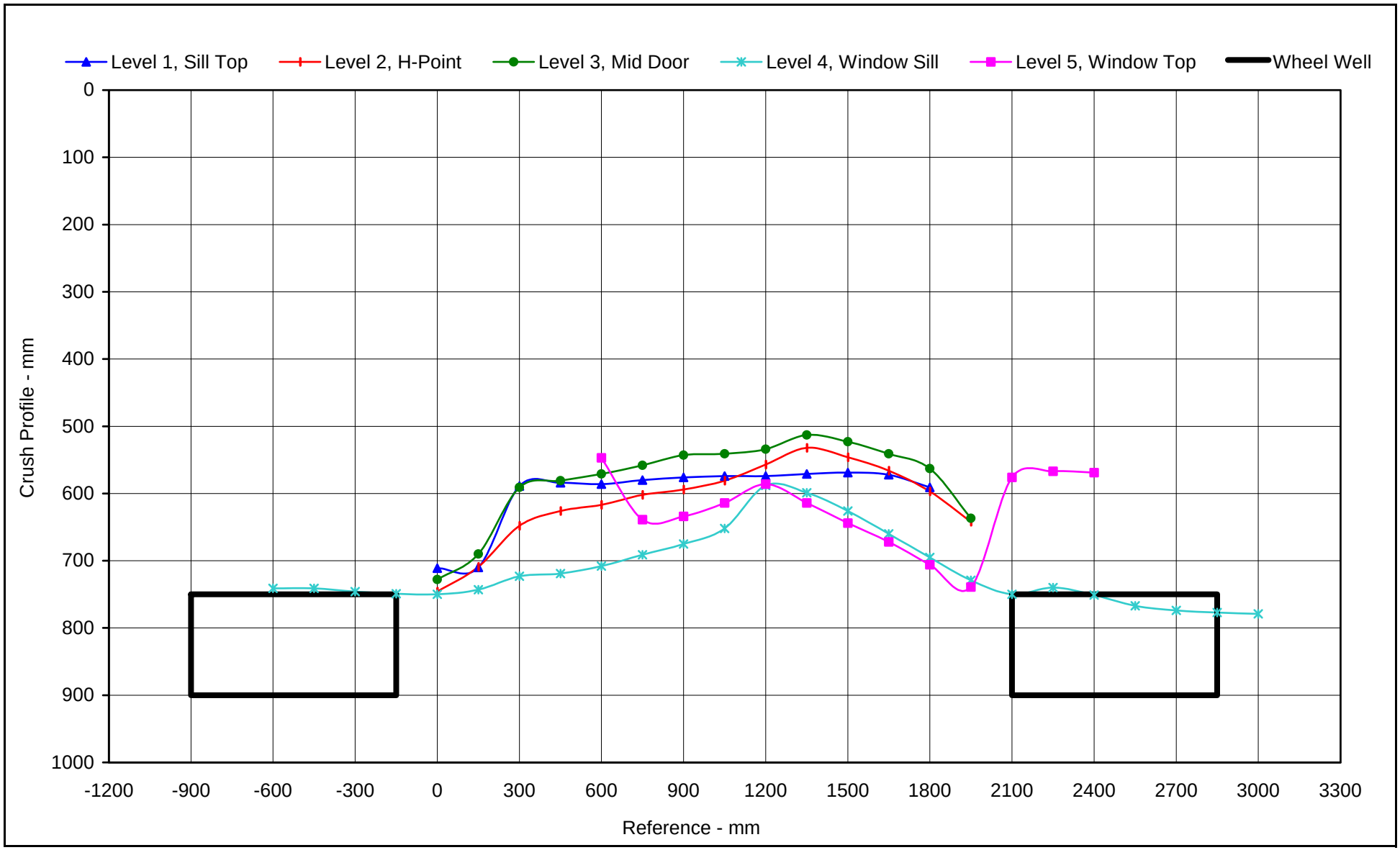
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600				781					741					40	
-450				794					741					53	
-300				802					746					56	
-150				809					749					60	
0	908	837	838	818		711	746	728	750		197	91	110	68	
150	854	841	839	821		710	709	690	743		144	132	149	78	
300	853	844	842	824		589	648	591	723		264	196	251	101	
450	853	849	847	825		584	626	581	719		269	223	266	106	
600	855	853	851	831	602	586	617	571	708	547	269	236	280	123	55
750	857	857	854	832	619	580	602	558	691	639	277	255	296	141	-20
900	855	859	855	832	624	576	594	543	675	634	279	265	312	157	-10
1050	855	859	858	835	627	574	581	541	652	614	281	278	317	183	13
1200	854	860	859	836	629	574	557	534	588	586	280	303	325	248	43
1350	854	860	859	834	630	571	532	513	599	614	283	328	346	235	16
1500	853	860	859	835	632	569	546	523	626	644	284	314	336	209	-12
1650	855	859	859	835	629	572	566	541	660	672	283	293	318	175	-43
1800	870	858	857	835	629	591	597	563	695	706	279	261	294	140	-77
1950		859	894	833	622		642	637	729	739		217	257	104	-117
2100				833	619				750	576				83	43
2250				831	617				740	567				91	50
2400				829	609				751	569				78	40
2550				829					767					62	
2700				825					774					51	
2850				824					777					47	
3000				821					779					42	

Pre-Test and Post-Test dimensions are actual distance from centerline of test vehicle.

DATA SHEET NO. 10…(continued)



Maximum Crush, Level 1: 284 mm at 1500 mm

Maximum Crush, Level 2: 328 mm at 1350 mm

Maximum Crush, Level 3: 346 mm at 1350 mm

Maximum Crush, Level 4: 248 mm at 1200 mm

Maximum Crush, Level 5: 55 mm at 600 mm

Test Program: 55/28 km/h 90° Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

Test Da 11/30/00

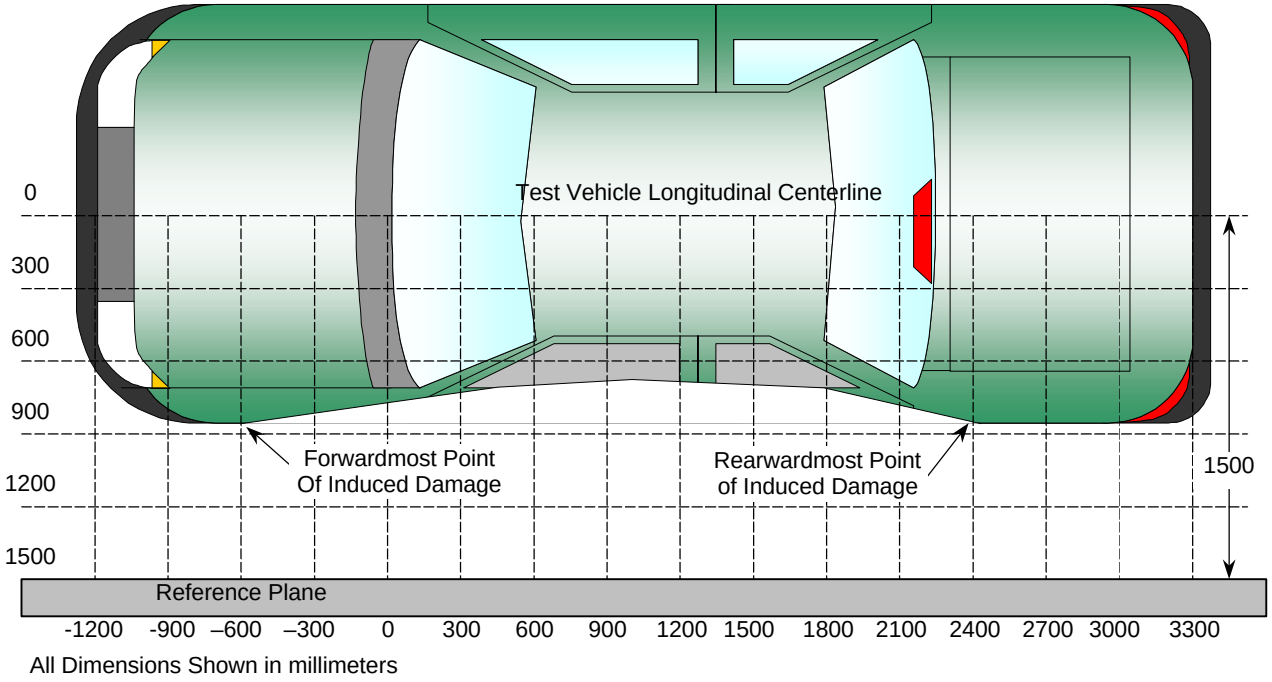
KARCO Engineering

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



TOP VIEW

Damage Profile Distances

DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	-600	4	781	741	40
2	0	1	908	711	197
3	750	3	854	558	296
4	1500	3	859	523	336
5	2250	4	831	740	91
6	3000	4	821	779	42

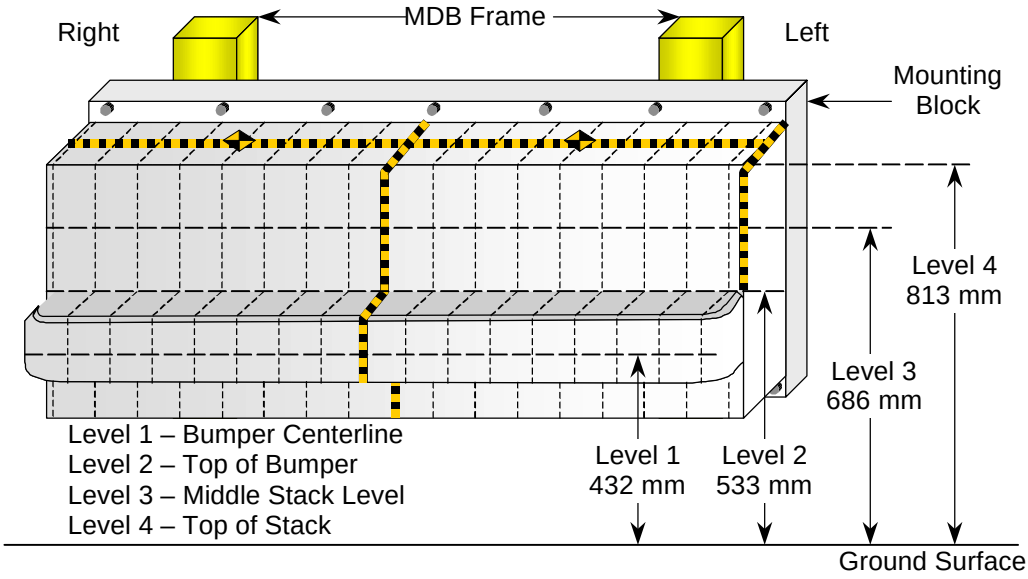
Pre-Test and Post-Test measurements are distance from vehicle centerline.

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



DEFORMABLE BARRIER STATIC CRUSH

Stack	Distance Right of Center								C_L	Distance Left of Center							
Level	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	103	83	71	65	62	63	65	66	67	69	71	73	75	76	80	81	98
2	123	103	82	71	66	61	57	52	55	63	70	68	75	79	82	84	139
3	139	88	69	52	42	39	56	48	30	27	25	26	30	35	47	68	138
4	181	152	125	103	89	76	93	80	57	56	62	67	77	91	106	127	182

All Dimensions in mm

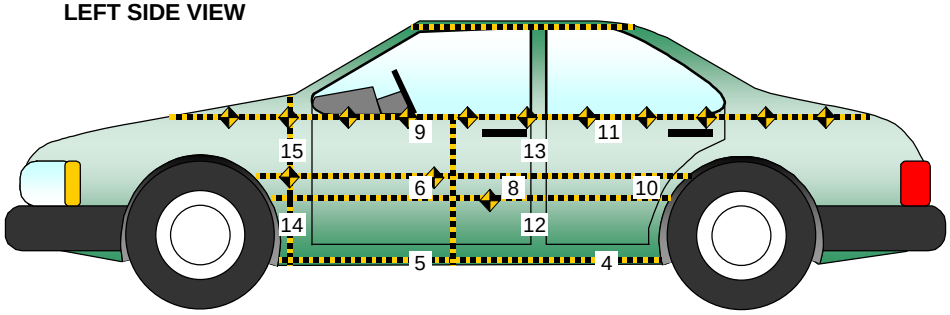
DATA SHEET NO. 13

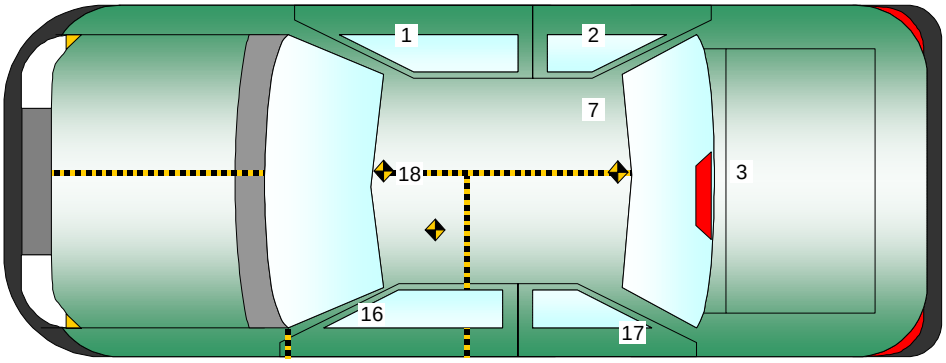
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

LEFT SIDE VIEW





No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)					
		X	Y	Z	Axis	Max	Time	Min	Time	
1	Right Sill at Front Seat	2835	680	480	X	7.0	19.8	-11.3	26.0	
					Y	25.7	17.9	-5.2	79.5	
					Z	5.4	9.1	-7.7	30.4	
					RES	26.2	17.9			
2	Right Sill at Rear Seat	2000	625	485	X	5.0	53.9	-18.8	29.3	
					Y	49.1	10.8	-9.2	18.2	
					Z	4.3	71.6	-7.8	22.0	
					RES	50.1	10.8			
3	Rear Floorpan Above Axle	1160	0	745	X	4.9	39.6	-7.8	24.5	
					Y	39.4	11.0	-11.7	19.4	
					Z	40.9	33.5	-30.3	38.3	
					RES	42.0	33.5			
4	Left Sill at Rear Door	1835	-705	470	Y	118.1	10.6	-41.9	27.1	
5	Left Sill at Front Door	2855	-705	450	Y	152.5	8.9	-62.0	25.0	
6	Front Door Centerline	2800	-725	830	Y	256.2	13.8	-93.3	24.0	
7	Rear Occupant Compartment	2120	310	555	Y	34.1	10.3	-6.7	18.1	
8	Front Door Mid-Rear	2540	-720	785	Y	179.8	10.3	-82.5	14.9	
9	Front Door Upper Centerline	2825	-725	905	Y	91.9	14.0	-83.7	20.7	
10	Rear Door Mid-Rear	1575	-705	885	Y	148.4	14.5	-78.0	24.5	
11	Rear Door Upper Centerline	1830	-705	835	Y	116.5	14.7	-95.8	27.8	*
12	B-Post Lower	2340	-700	840	Y	172.5	9.2	-36.0	29.4	
13	B-Post Middle	2340	-700	1040	Y	165.0	10.1	-58.7	41.8	
14	A-Post Lower	3330	-765	620	Y	116.1	6.9	-24.7	19.9	
15	A-Post Middle	3330	-765	950	Y	67.4	8.7	-5.5	13.2	
16	Front Seat Track	2910	-580	590	Y	42.8	15.6	-25.5	25.3	
17	Rear Seat Structure				Y					**
18	Vehicle CG	2135	90	580	X	28.8	18.0	-25.0	10.3	
					Y	48.8	10.3	-7.4	37.0	
					Z	54.0	12.2	-32.9	63.4	
					RES	72.3	11.2			

* Channel failed at 35.7 Msec.

** Not installed

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

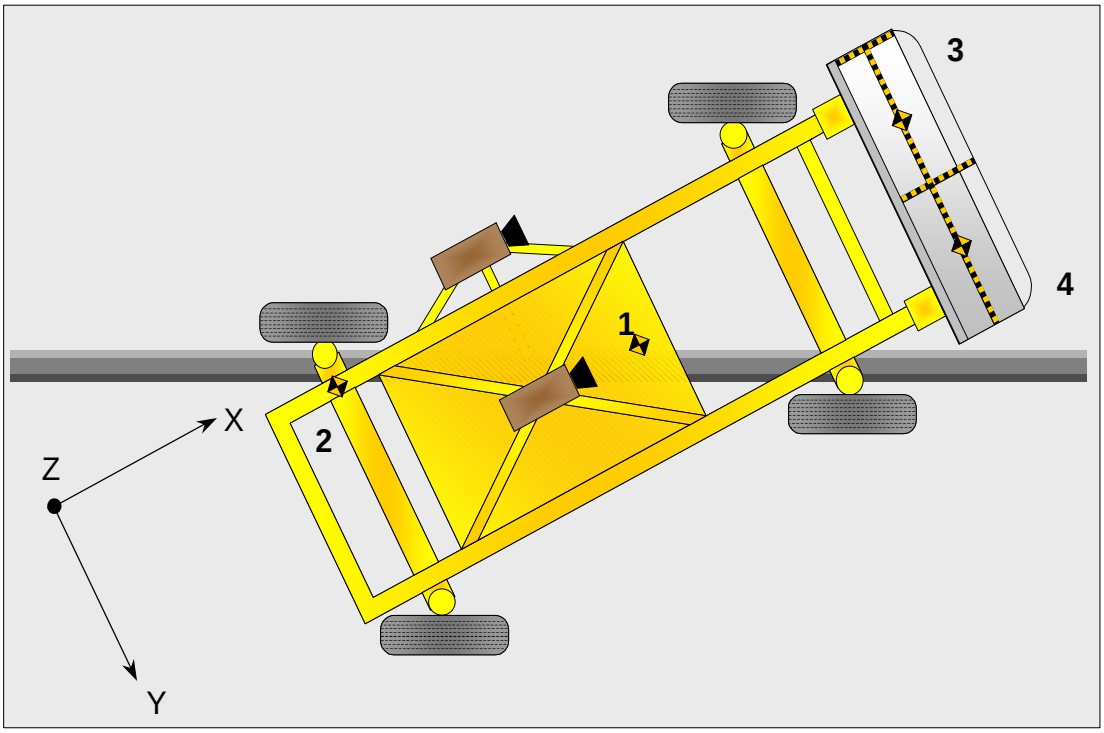
MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1195	0	430	X	2.9	170.3	-22.4	35.1
					Y	1.8	174.0	-7.9	32.3
					Z	12.3	52.7	-11.5	69.5
					RES	23.7	34.9		
2	MDB Rear	-2642	-593	608	X	3.0	173.1	-24.1	31.8
					Y	3.0	108.1	-6.5	16.4

Reference Points X - MDB Front Axle Y - MDB Centerline Z - Ground Plane

MDB BUMPER CONTACT SWITCH DATA

Loc. No.	Contact Switch Location	Units	Peak and 50% Crossing Point			
			Max	Time	50%	Time
3	MDB Left Bumper (T=0)	% F.S	100.0	0.0	0.0	0.0
4	MDB Right Bumper	% F.S.	105.1	5.1	52.6	0.9

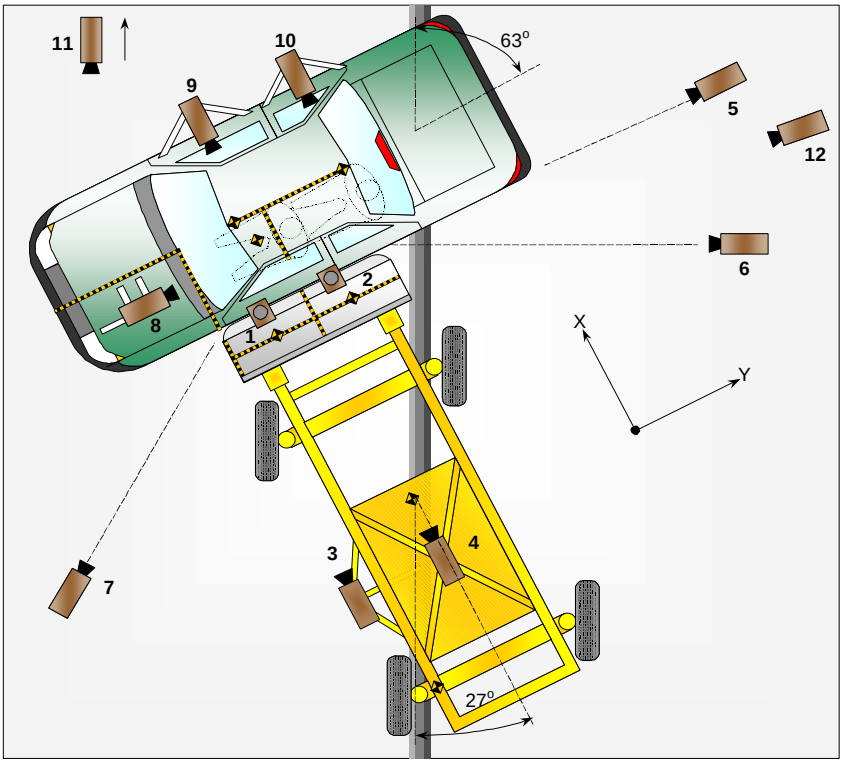


DATA SHEET NO. 15

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Film Speed (fr./sec.)
		X	Y	Z			
1	Overhead Overall	1676	762	-5486	-86	10	923
2	Overhead Close-up	-762	0	-5790	-88	24	1007
3	MDB Onboard, Impact Point Close-Up	-2134	0	1143	-7	13	821
4	MDB Onboard, Centerline of Impact	-3048	-1676	1829	-11	13	918
5	Right Side, Ground Level, Overall	0	-18898	1524	0	60	996
6	Right Side, Ground Level, Close-up	-9144	-18288	2260	0	25	1287
7	Left Side, Ground Level, Close-up	2362	5410	1448	-6	13	1009
8	Vehicle Onboard Front SID, Front	0	1280	1650	-15	19	980
9	Vehicle Onboard Front SID, Side	1500	740	1180	-7	10	1014
10	Vehicle Onboard Rear SID, Side	1900	0	1180	-6	10	1024
11	Front View In-line with Track	108051	229	1021	0	80	490
12	Real Time Coverage	3072	20040	2350	n/a	n/a	16

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

Test Time: 11:52 AM Temperature at Time of Impact: 16.6 °C

STODDARD SOLVENT SPILLAGE MEASUREMENTS

A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)

B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)

C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)

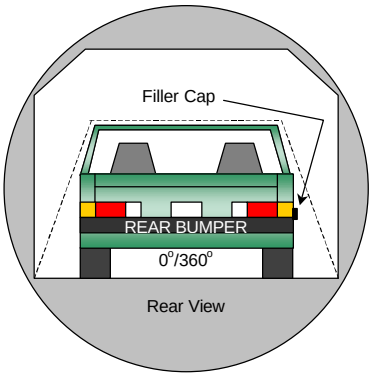
D. Spillage Details: No leakage occurred

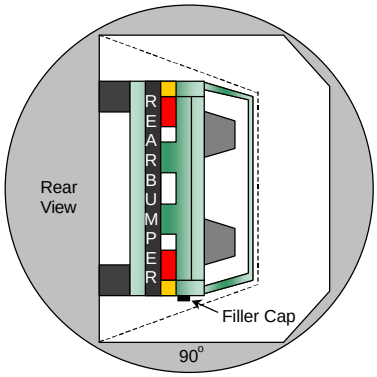
DATA SHEET NO. 17

FMVSS 301 STATIC ROLLOVER DATA SHEET

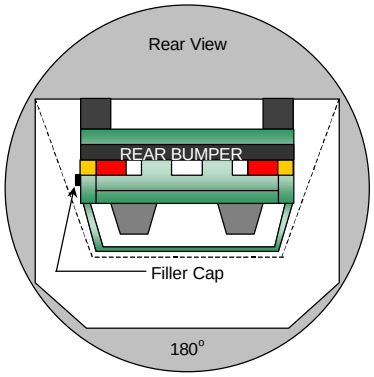
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV NHTSA No.: M10204

Test Program: 55/28 km/h 90° Side Impact NCAP Test Date: 11/30/00

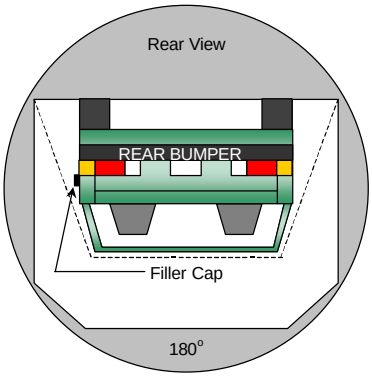


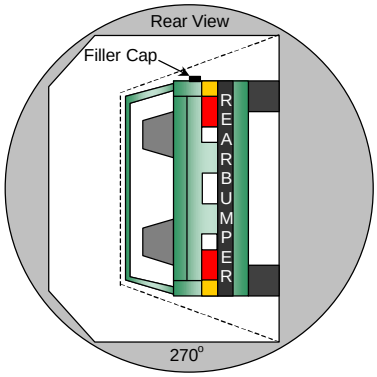


0° TO 90°

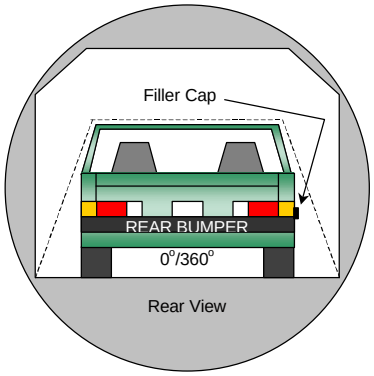


90° TO 180°





180° TO 270°



270° TO 360°

1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations:

   No solvent leakage occurred during static rollover testing.

Rollover Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	82	300	0.0
90° TO 180°	80	300	0.0
180° TO 270°	80	300	0.0
270° TO 360°	78	300	0.0

APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

Figure A-1: Left Front, as Received

Figure A-2: Right Rear, as Received

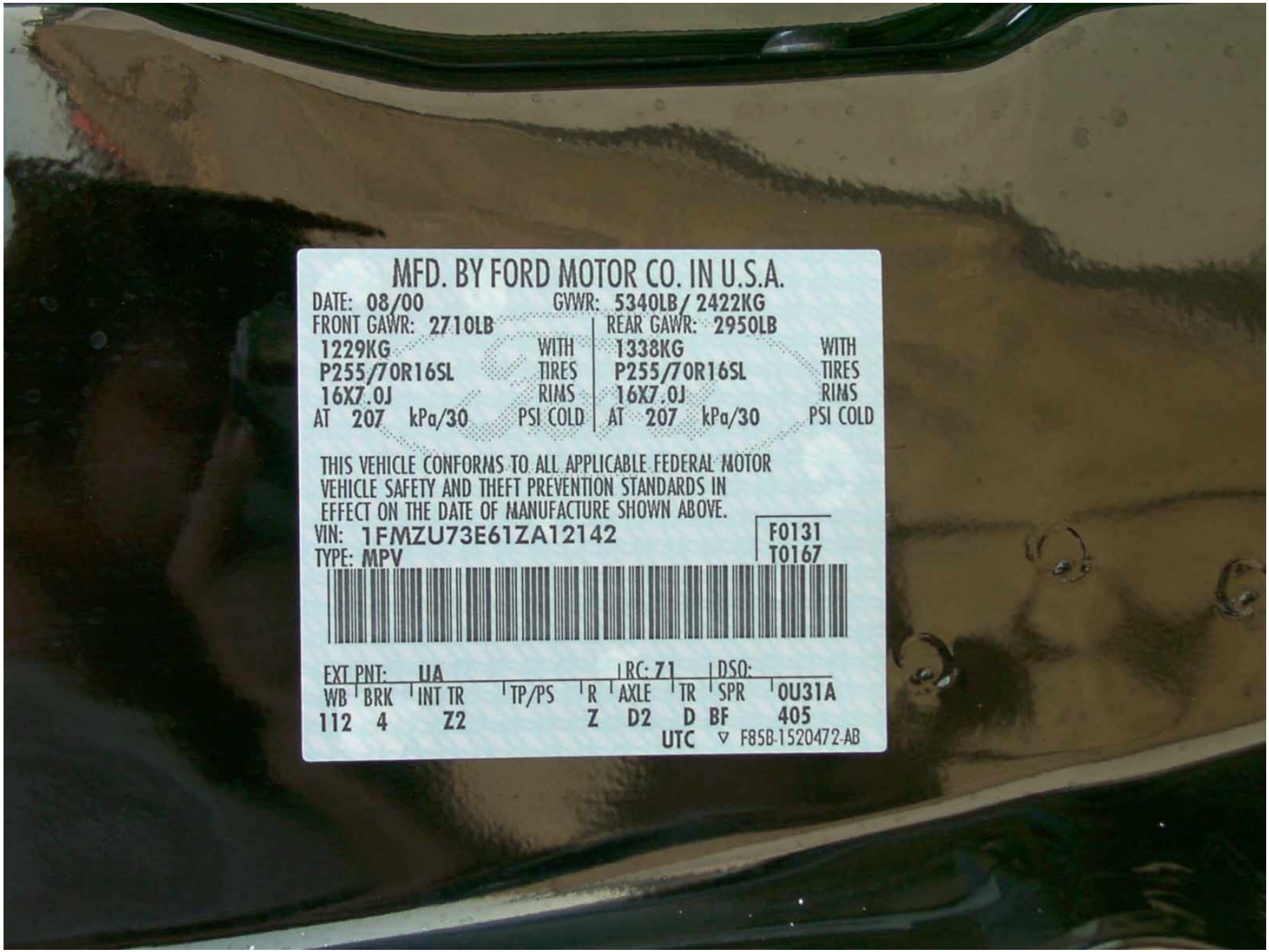


Figure A-3: Vehicle Certification Label

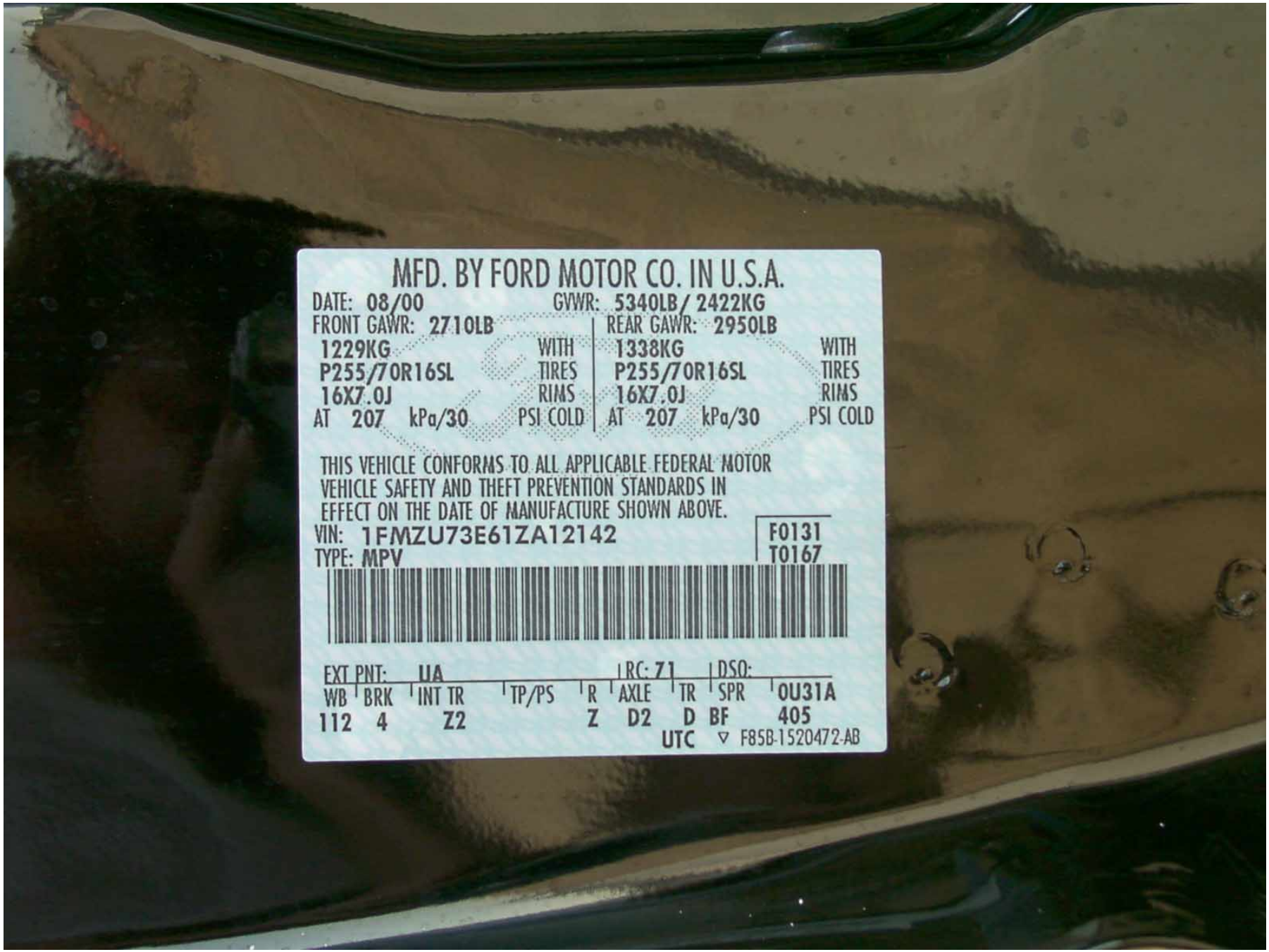


Figure A-4: Vehicle Tire Label

Figure A-5: Front View, Pre-Test

Figure A-6: Front View, Post-Test

Figure A-7: Rear View, Pre-Test

Figure A-8: Rear View, Post-Test

Figure A-9: Left (Impacted) Side View, Pre-Test

Figure A-10: Left (Impacted) Side View, Post-Test

Figure A-11: Overhead Close-up View at Impact Position, Pre-Test

Figure A-12: Overhead Overall View, Pre-Test

Figure A-13: Overhead Overall View, Post-Test

Figure A-14: MDB Left Side View at Impact Position, Pre-Test

Figure A-15: MDB Right Side View at Impact Position, Pre-Test

Figure A-16: Impact Point Target Close-up, Pre-Test

Figure A-17: Impact Point Target Close-up, Post-Test

Figure A-18: Driver Dummy Left Side with Door Open, Pre-Test

Figure A-19: Driver Dummy Left Side, Pre-test

Figure A-20: Driver Dummy Left Side, Post-Test

Figure A-21: Driver Dummy Clearance, Pre-Test

Figure A-22: Driver Dummy Clearance, Post-Test

Figure A-23: Driver Dummy Inside View, Pre-Test

Figure A-24: Driver Dummy Inside View, Post-Test

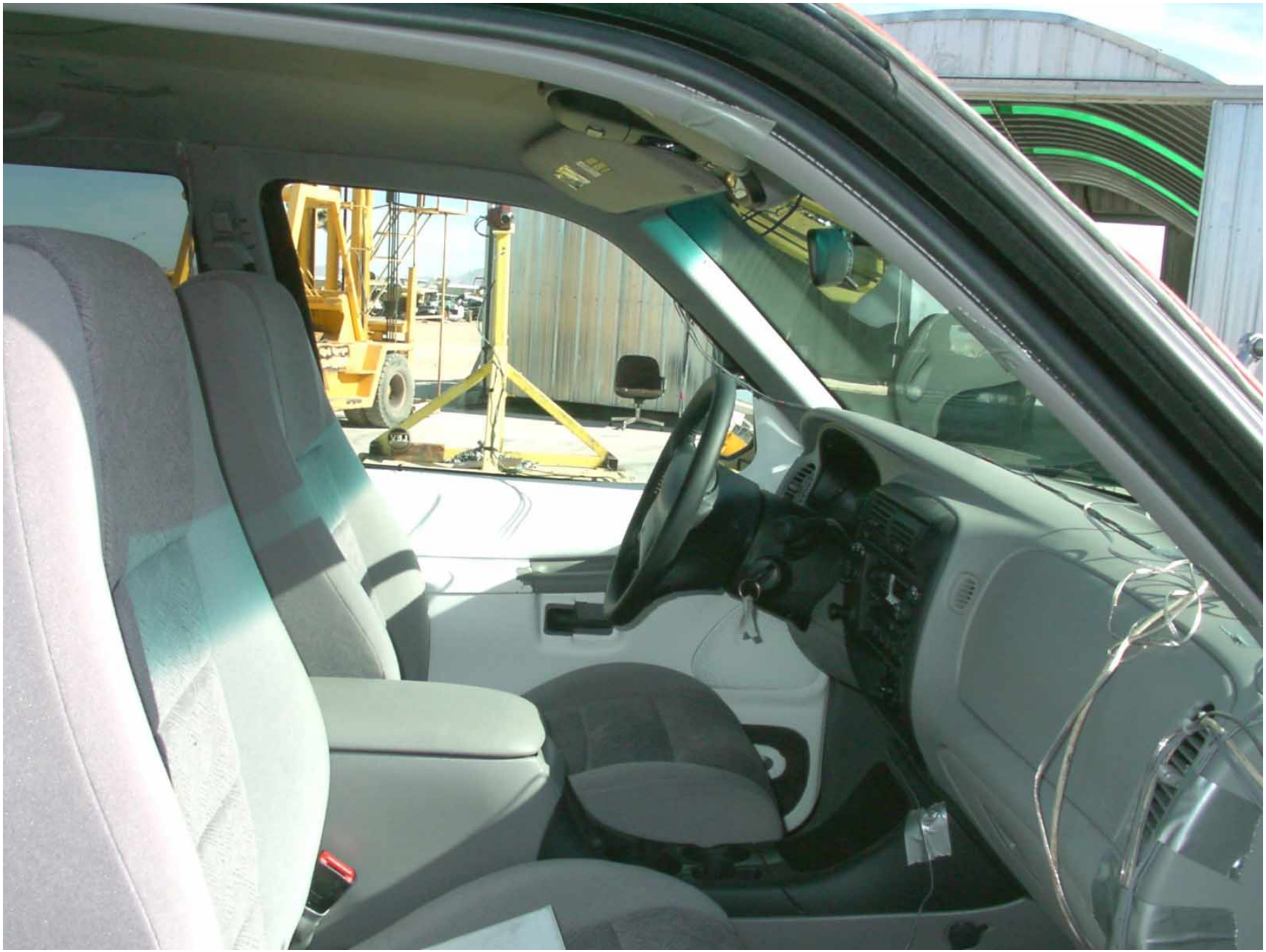


Figure A-25: Driver Door Inside View, Pre-Test

Figure A-26: Driver Dummy Contact Points Inside View, Post-Test

Figure A-27: Passenger Dummy Left Side with Door Open, Pre-Test

Figure A-28: Passenger Dummy Left Side, Pre-Test

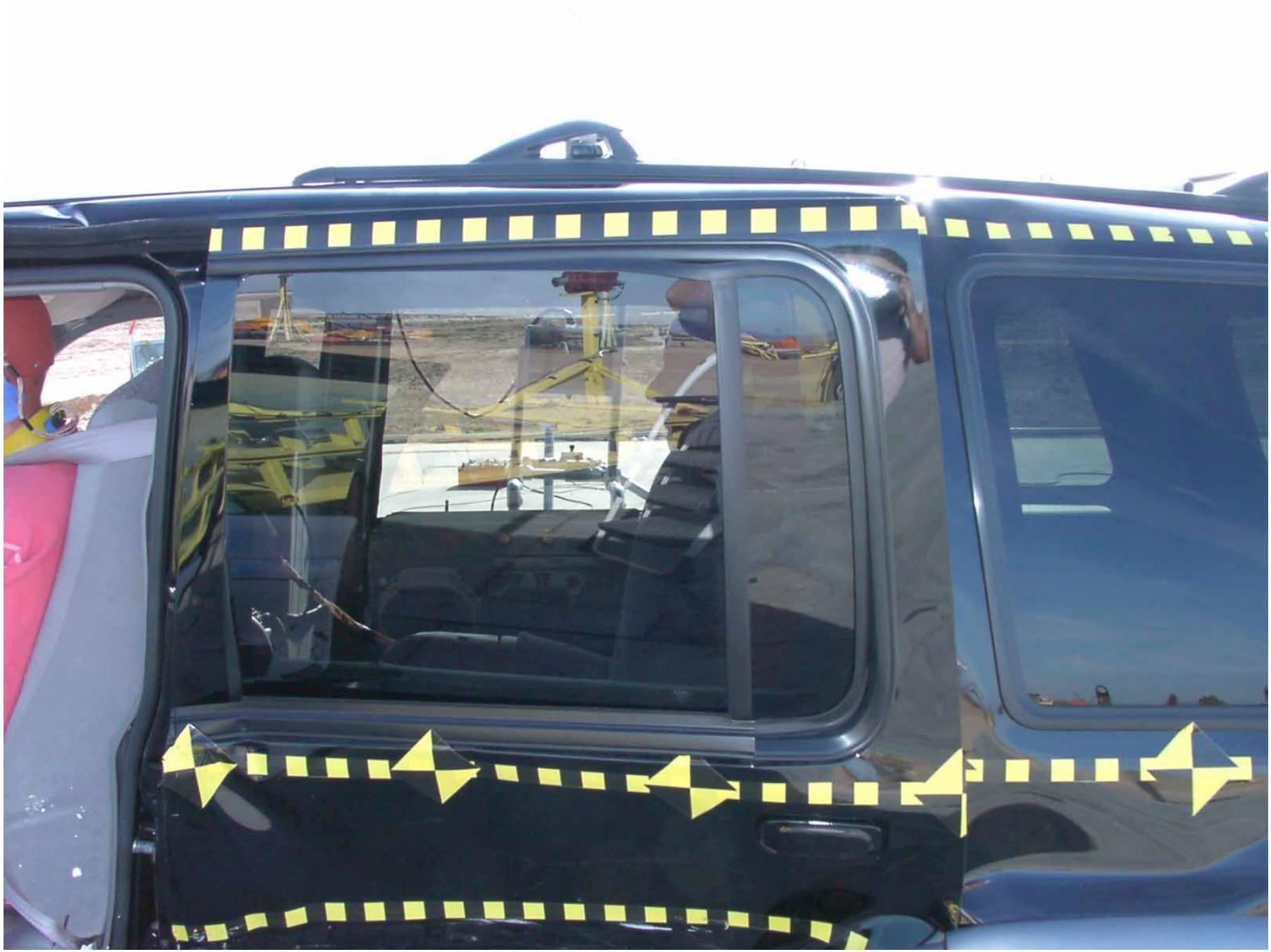


Figure A-29: Passenger Dummy Left Side, Post-Test

Figure A-30: Passenger Dummy Clearance, Pre-Test

Figure A-31: Passenger Dummy Clearance, Post-Test

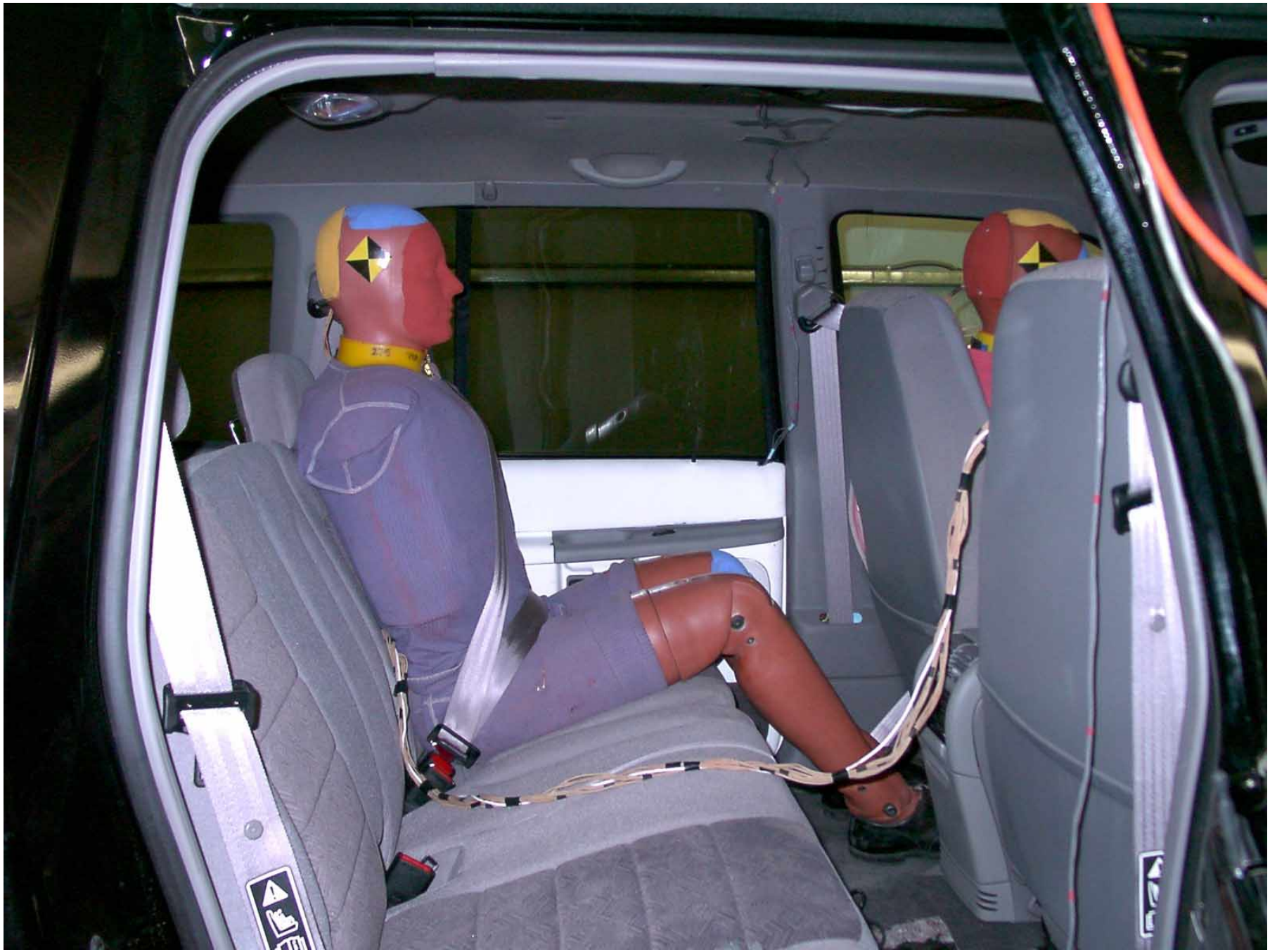


Figure A-32: Passenger Dummy Inside View, Pre-Test

Figure A-33: Passenger Dummy Inside View, Post-Test

Figure A-34: Passenger Door Inside View, Pre-Test

Figure A-35: Passenger Dummy Contact Points Inside View, Post-Test

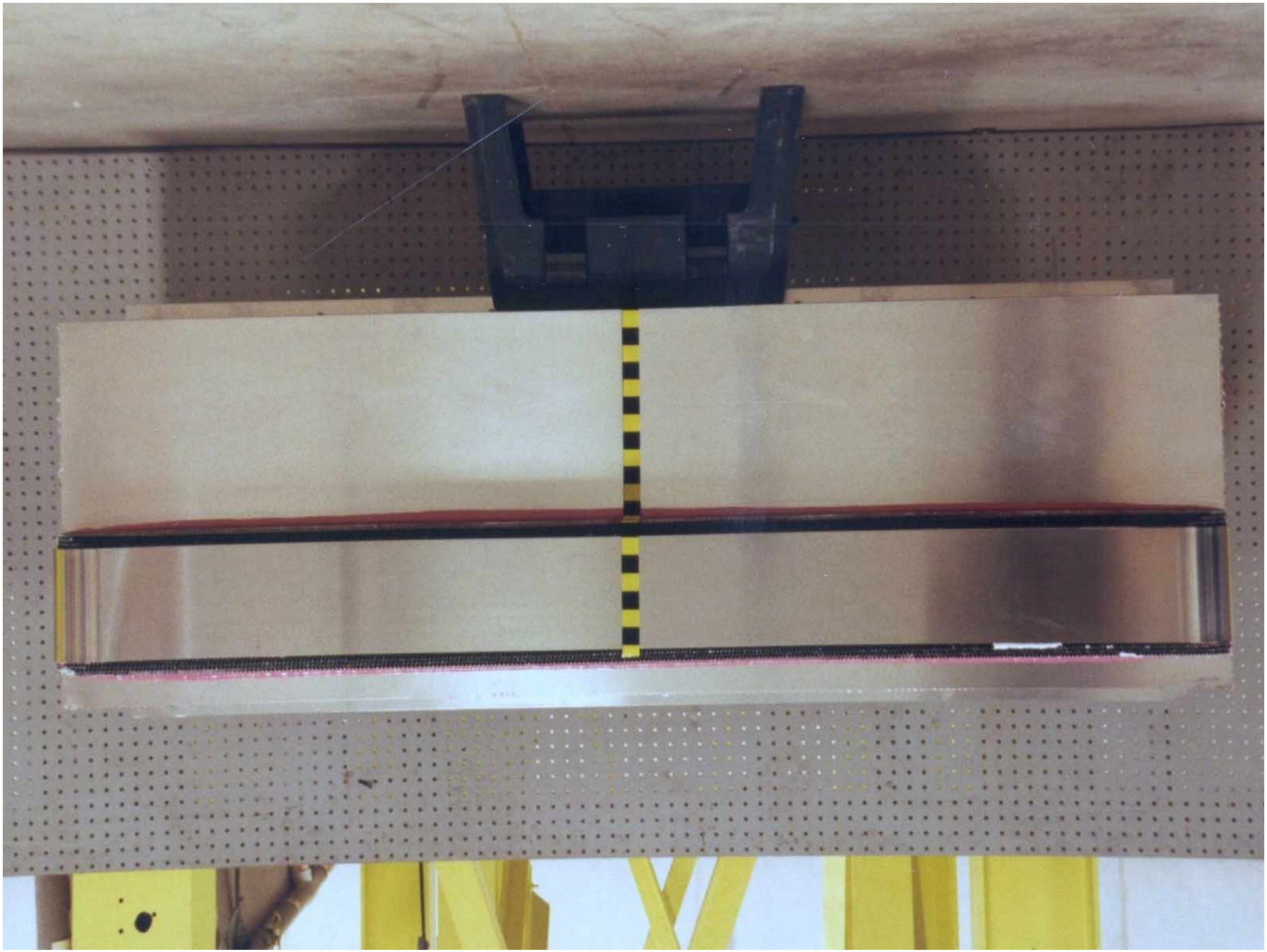


Figure A-36: Front View of Deformable Barrier, Pre-Test

Figure A-37: Front View of Deformable Barrier, Post-Test

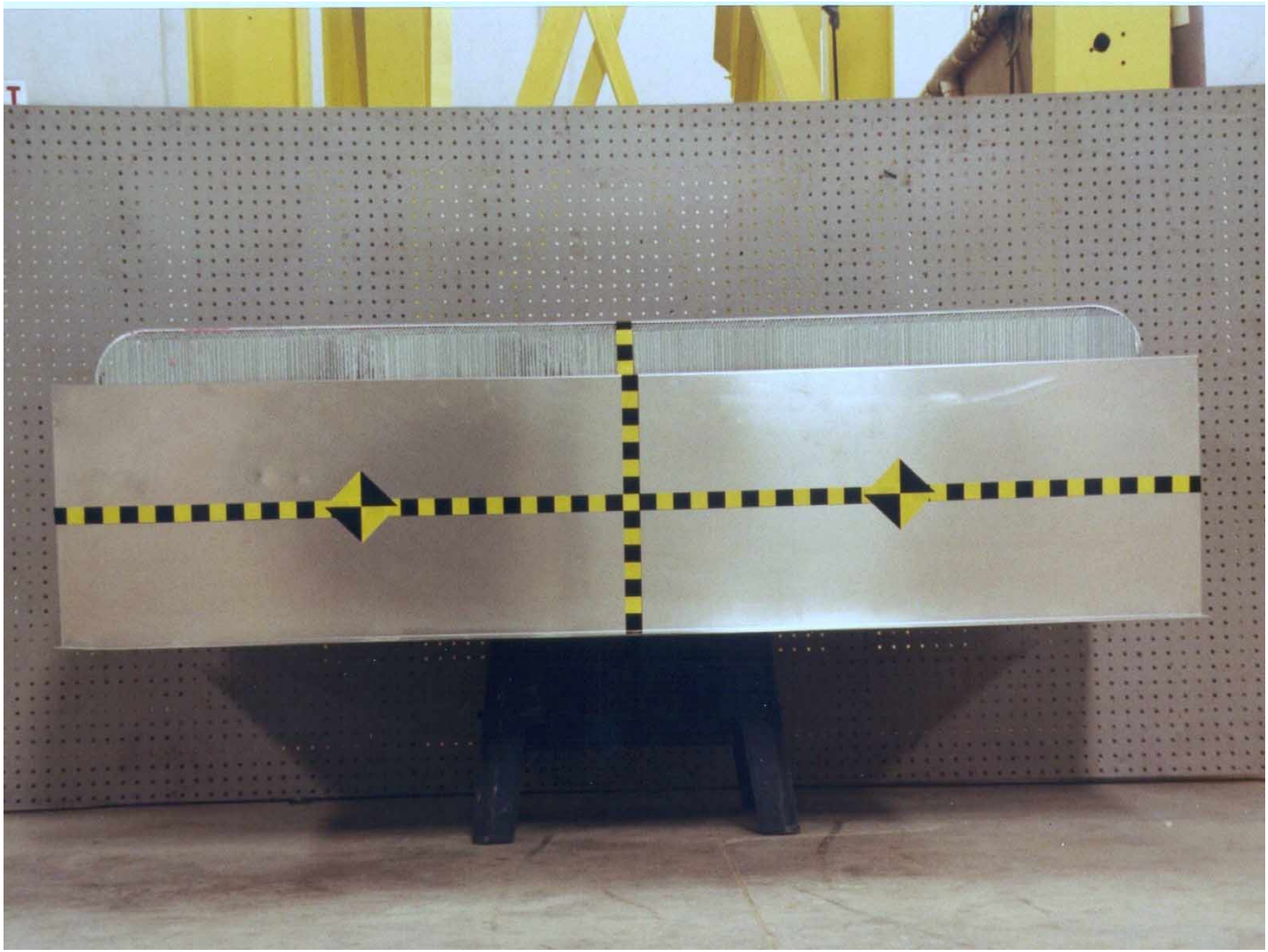


Figure A-38: Top View of Deformable Barrier, Pre-Test

Figure A-39: Top View of Deformable Barrier, Post-Test

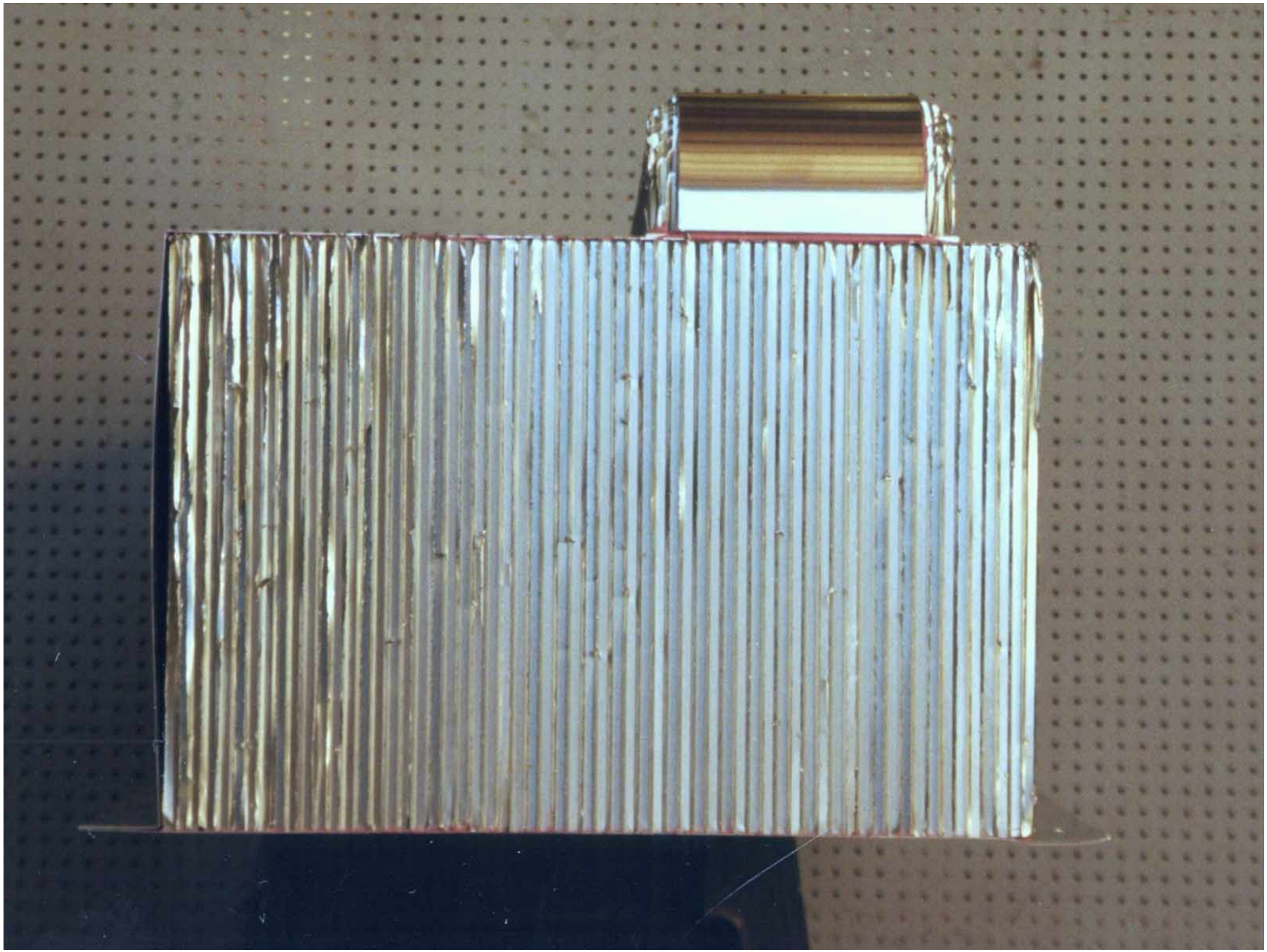


Figure A-40: Right Side View of Deformable Barrier, Pre-Test

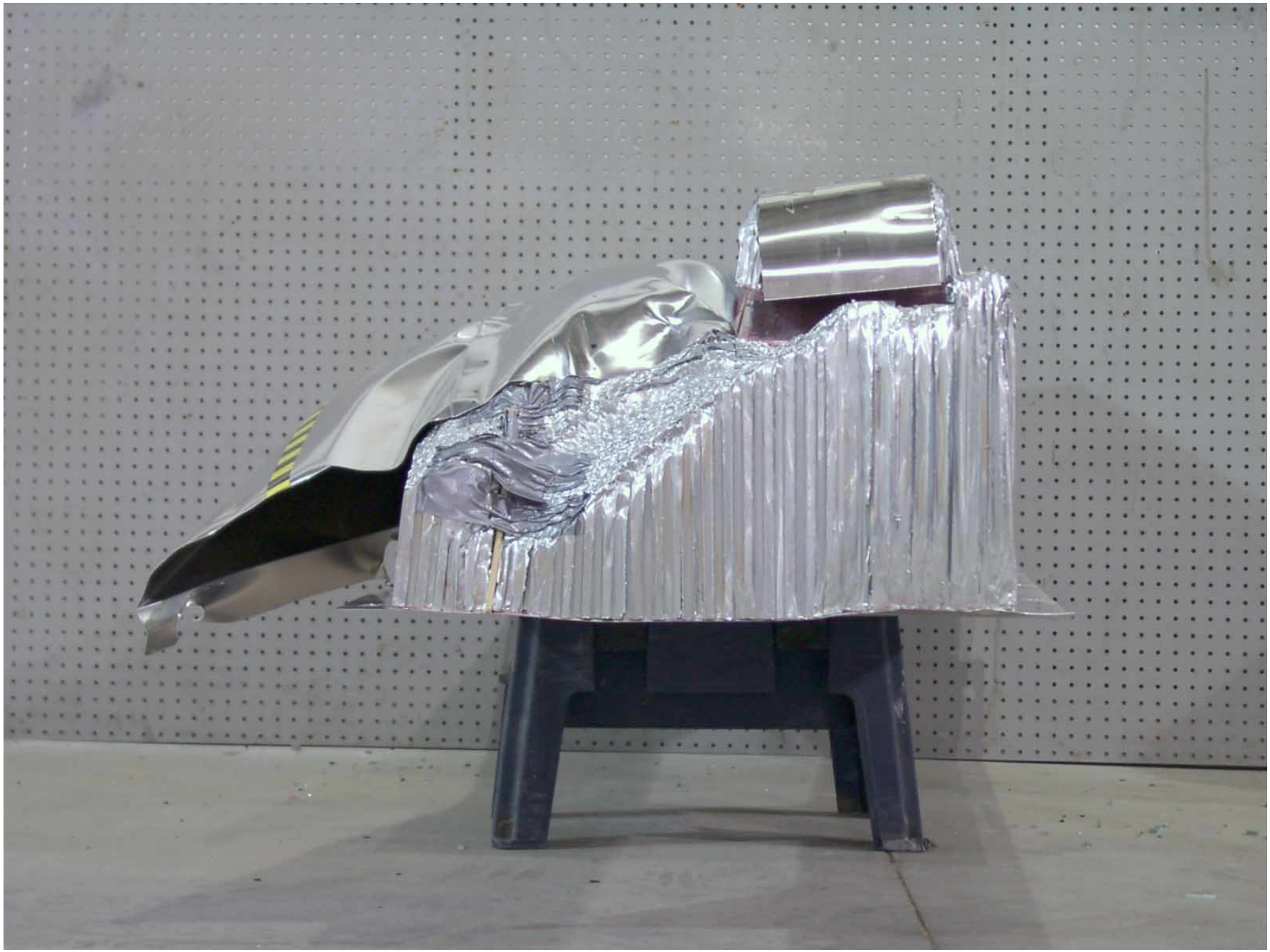


Figure A-41: Right Side View of Deformable Barrier, Post-Test

Figure A-42: Left Side View of Deformable Barrier, Pre-Test

Figure A-43: Left Side View of Deformable Barrier, Post-Test

Figure A-44: Vehicle on Rollover Device, Top View

Figure A-45: Vehicle During Impact

APPENDIX B
SID, VEHICLE, AND MDB RESPONSE DATA

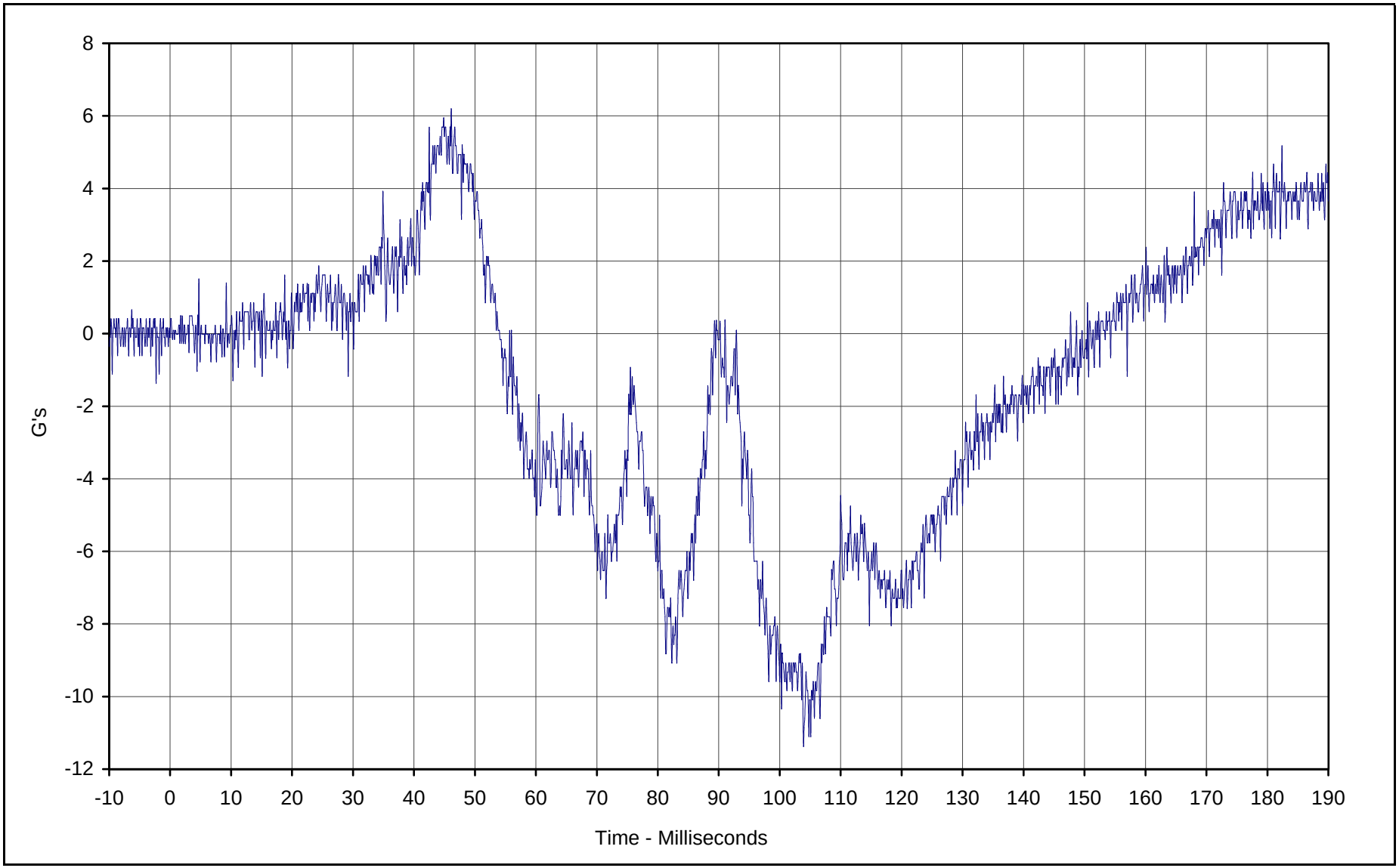
LIST OF DATA PLOTS, DRIVER SID

LIST OF DATA PLOTS, PASSENGER SID

LIST OF DATA PLOTS, VEHICLE

LIST OF DATA PLOTS, MDB

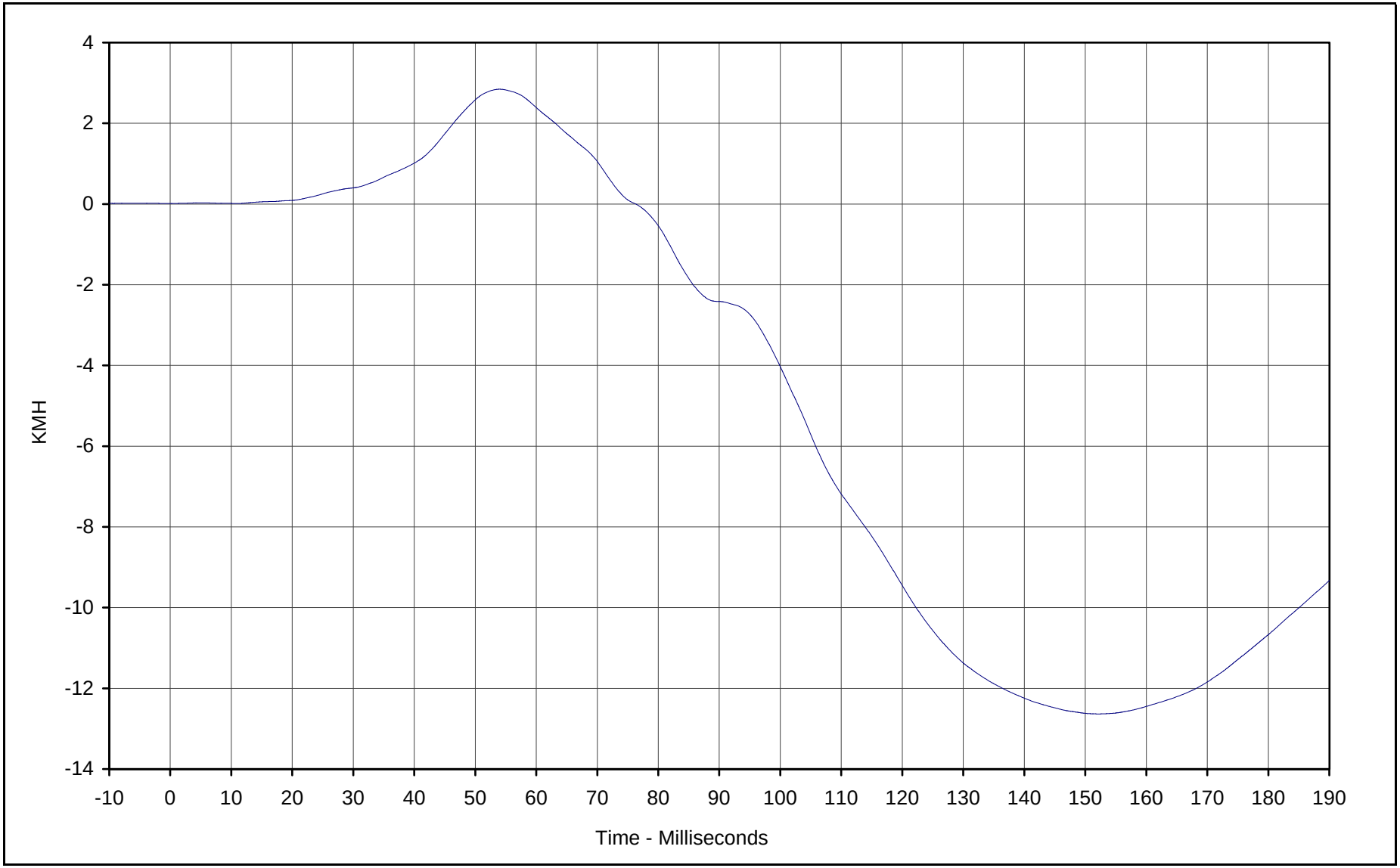
LIST OF DATA PLOTS, FIR FILTER DATA



Curve Description:	Driver Head CG X				
Maximum Value:	6.2	at	46.1	Milliseconds	
Minimum Value:	-11.4	at	103.9	Milliseconds	
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-001				

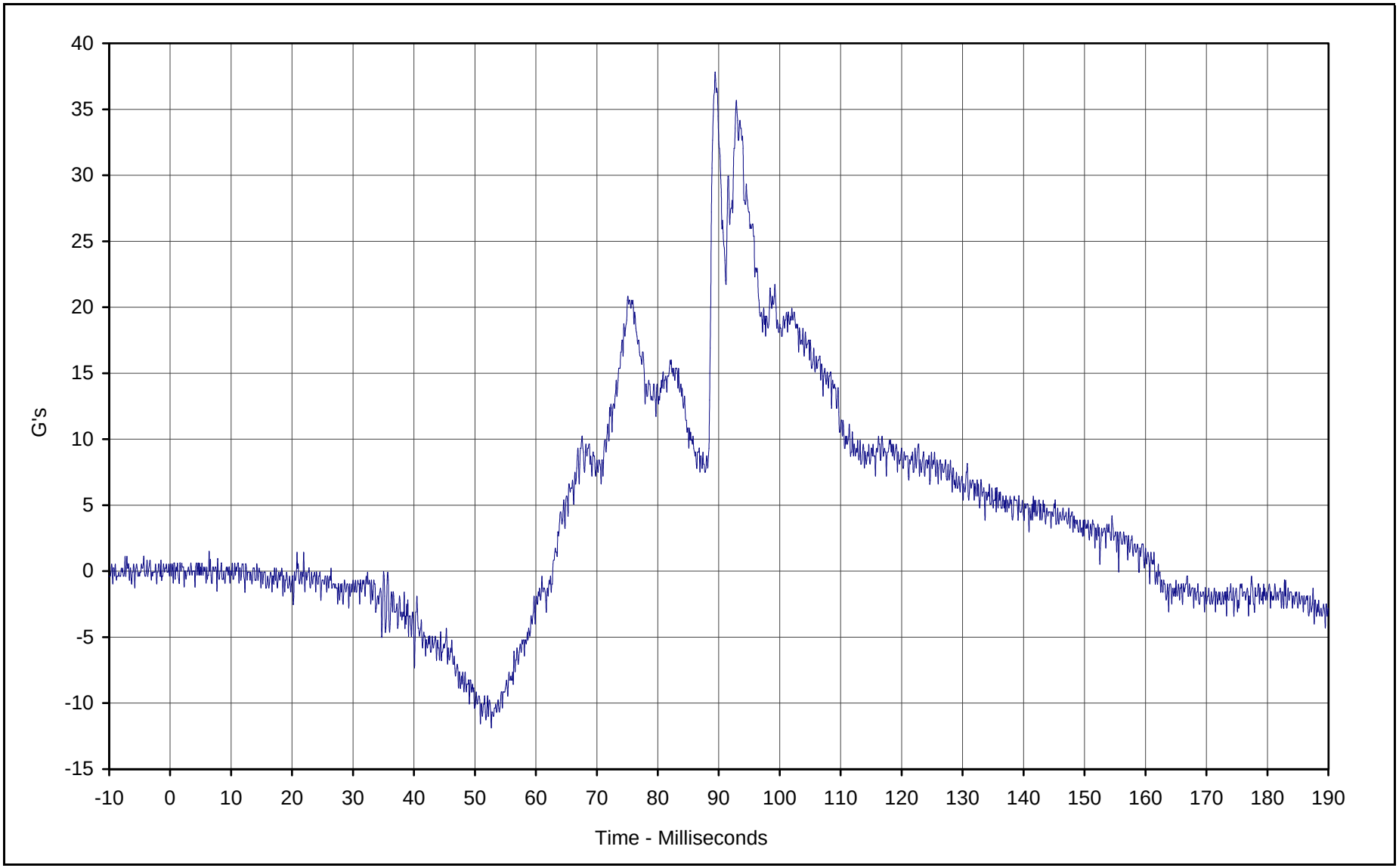
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARC Engineering



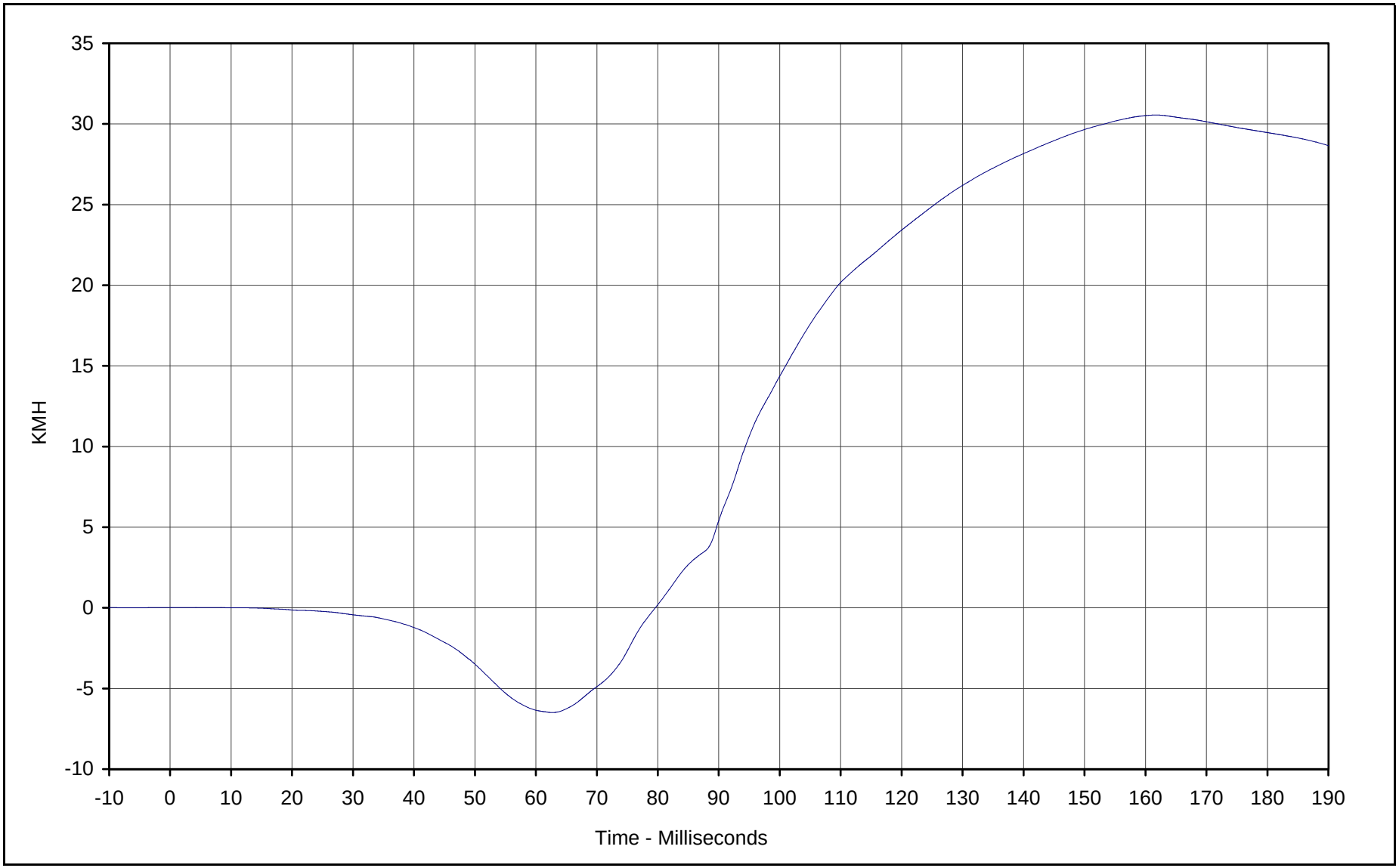
Curve Description:	Driver Head CG X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	2.8	at	54.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-12.6	at	152.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-001				

KARCO Engineering



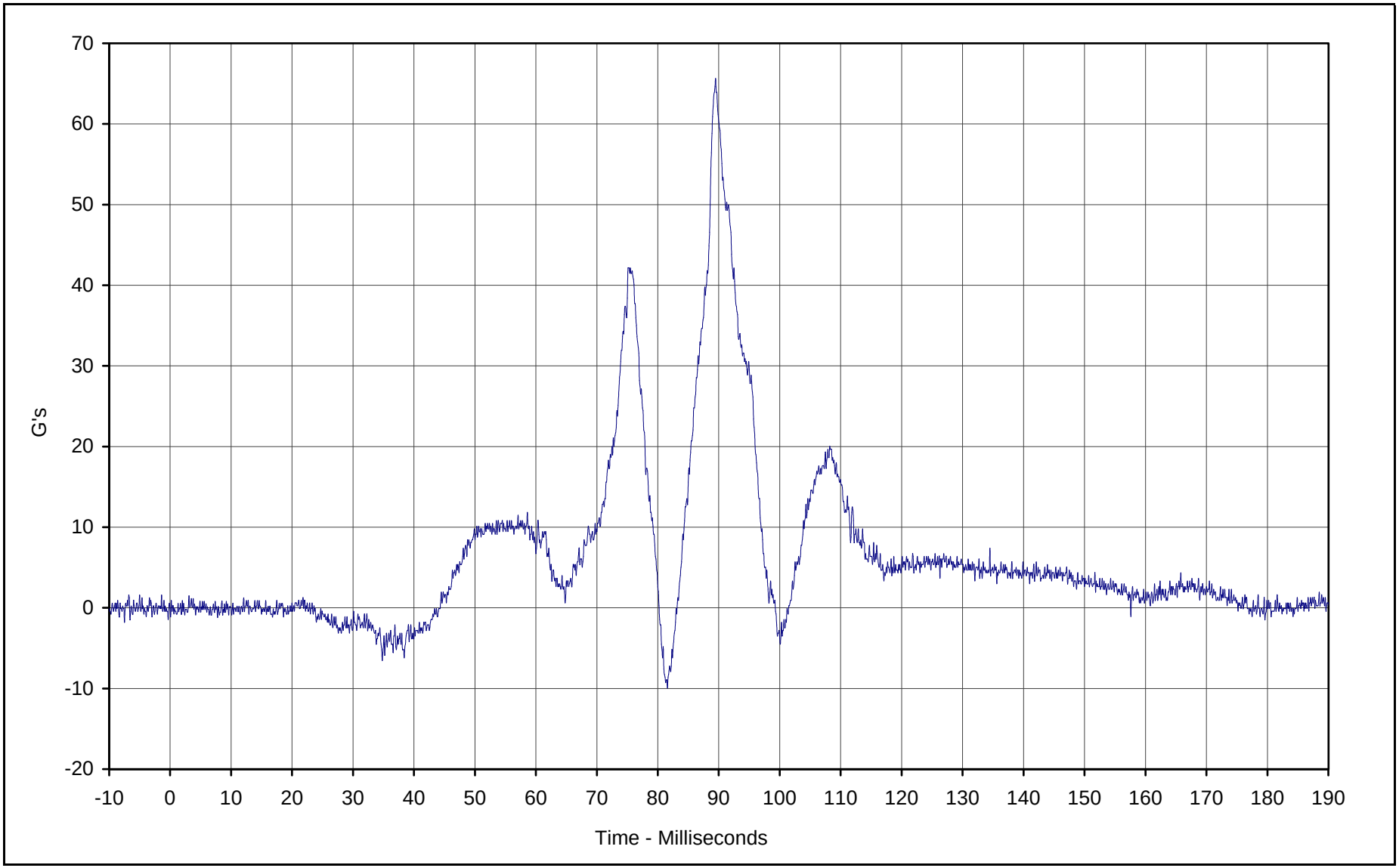
Curve Description:	Driver Head CG Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	37.8	at	89.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-11.9	at	52.7 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-002				

KARC Engineering



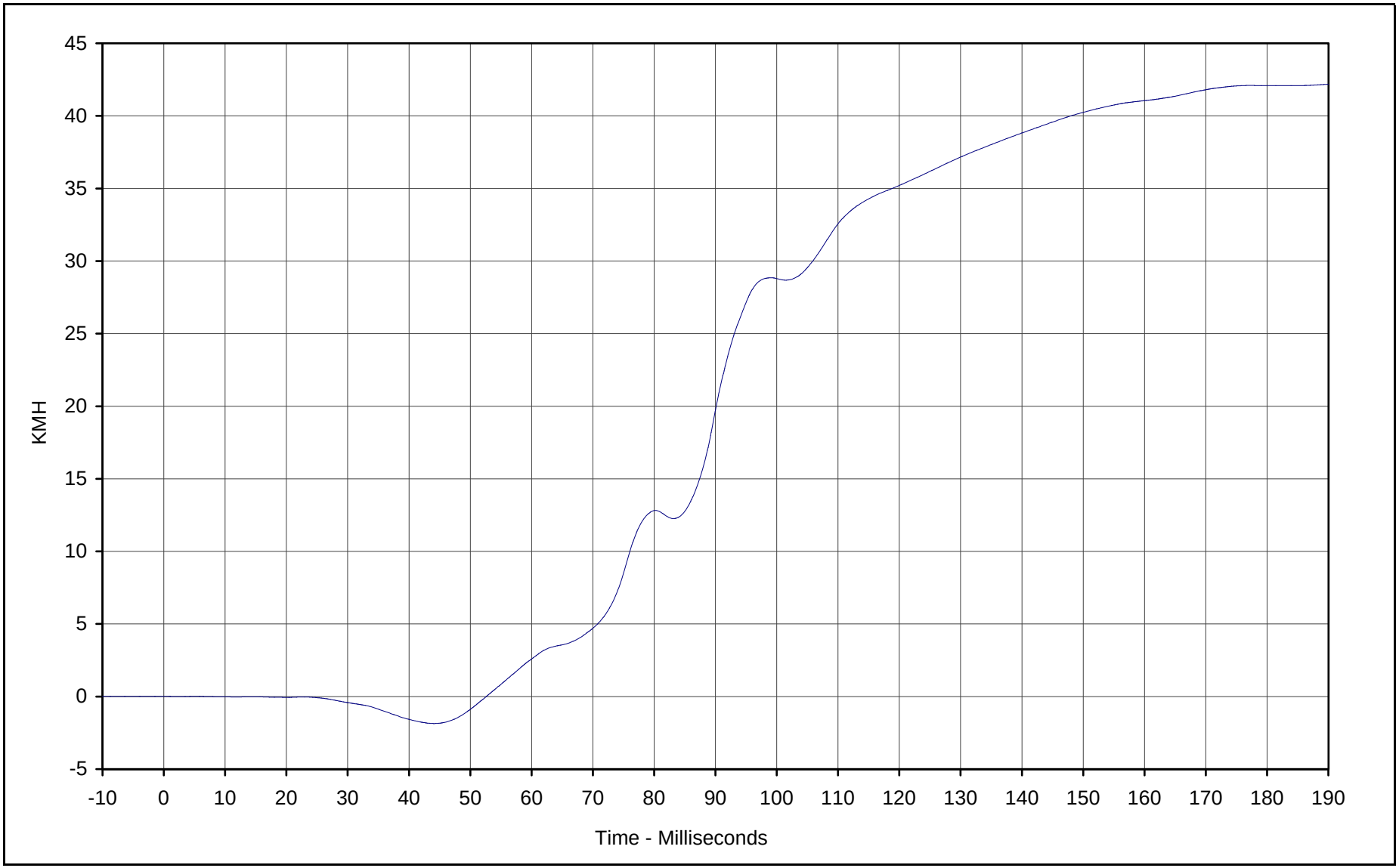
Curve Description:	Driver Head CG Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	30.6	at	161.7 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.5	at	62.7 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-002				

KARCO Engineering



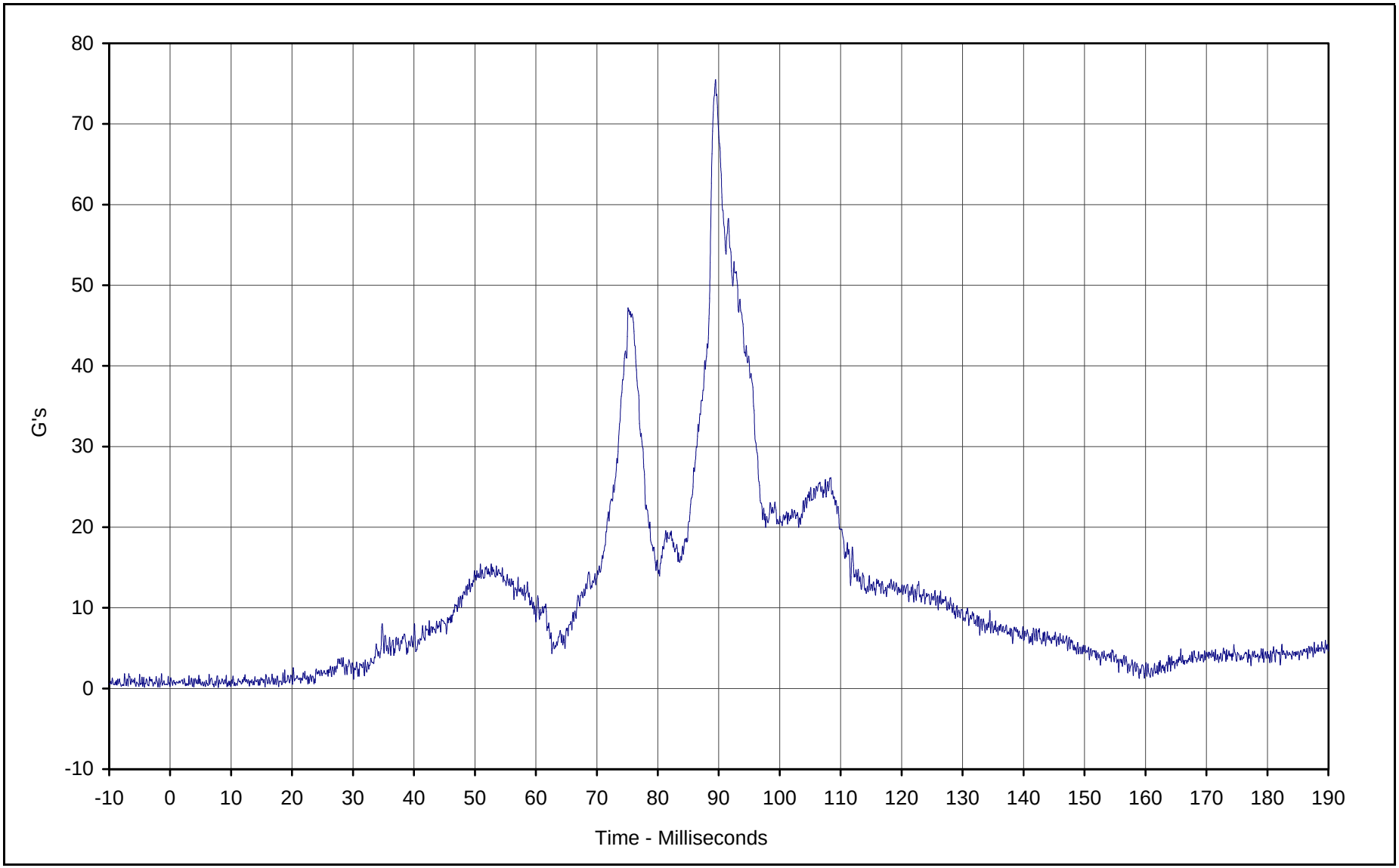
Curve Description:	Driver Head CG Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	65.6	at	89.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-10.0	at	81.6 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-003				

KARCO Engineering



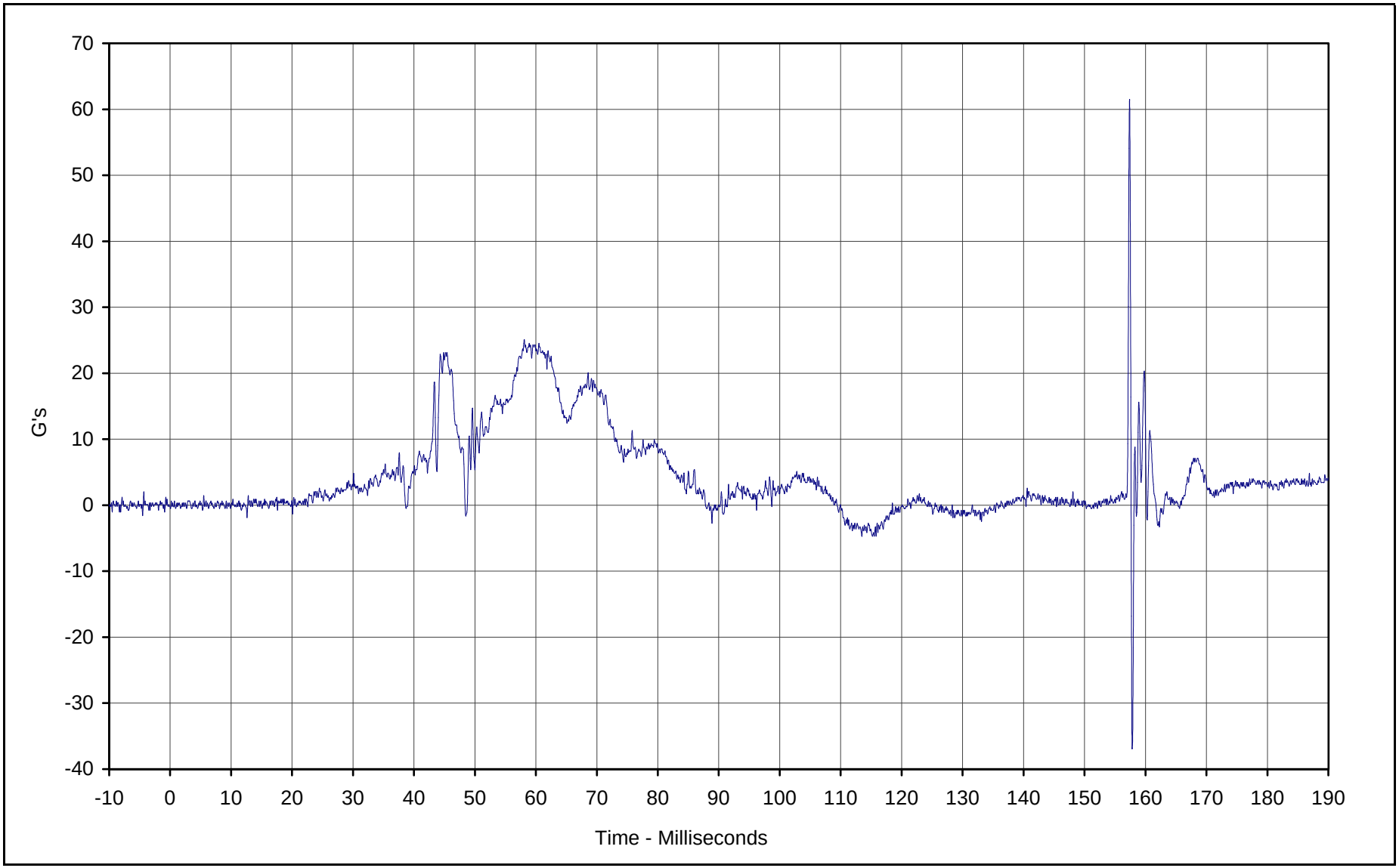
Curve Description:	Driver Head CG Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	42.2	at	189.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-1.9	at	44.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-003				

KARCO Engineering



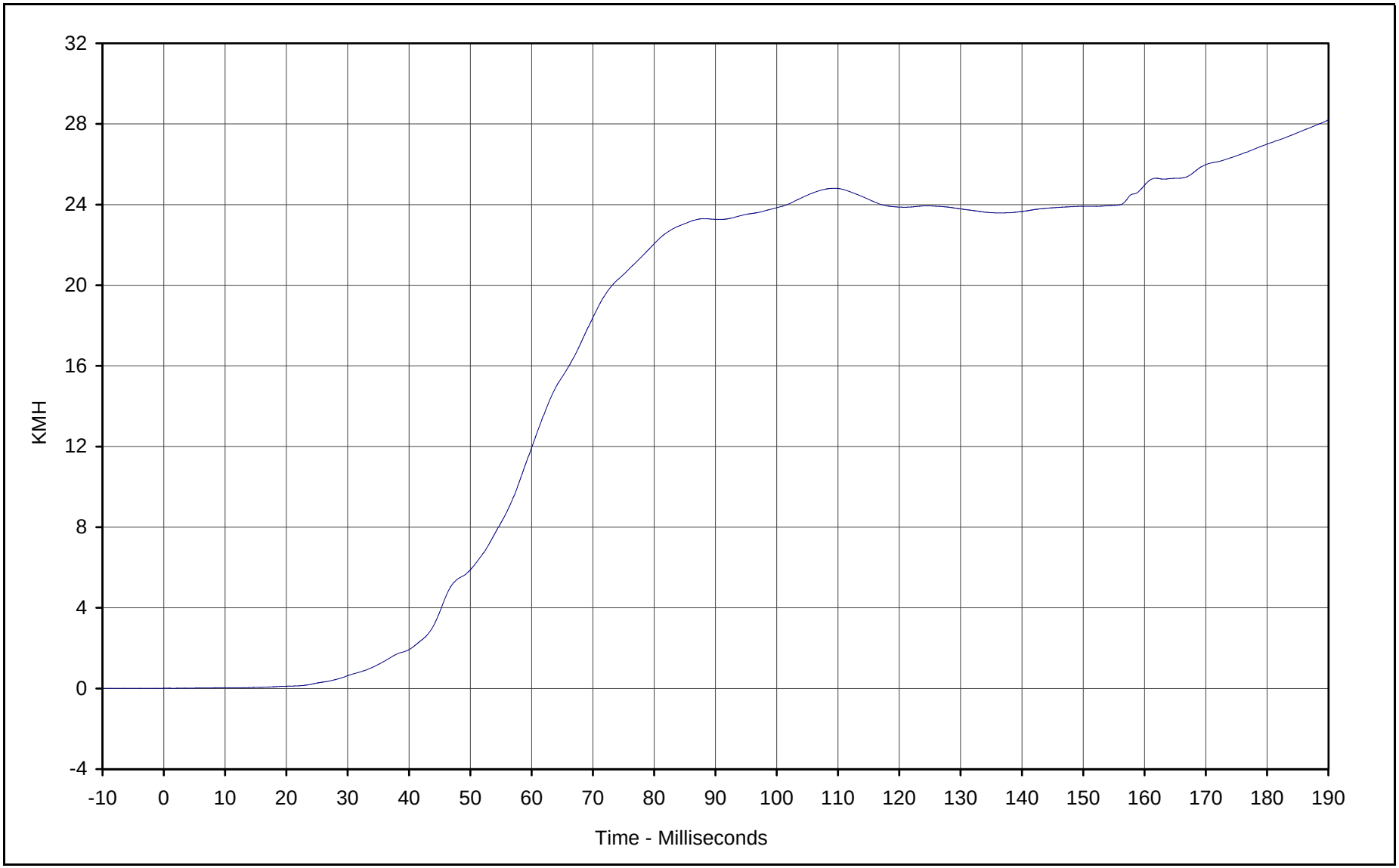
Curve Description:	Driver Head CG Resultant			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	75.5	at	89.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.1	at	7.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	RES-001				

KARCO Engineering



Curve Description:	Driver Upper Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	61.4	at	157.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-36.8	at	157.8 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-004				

KARCO Engineering



Curve Description: Driver Upper Rib Primary Y Velocity

Maximum Value: 28.2 at 189.9 Milliseconds

Minimum Value: 0.0 at 1.6 Milliseconds

SAE Filter Class: 180

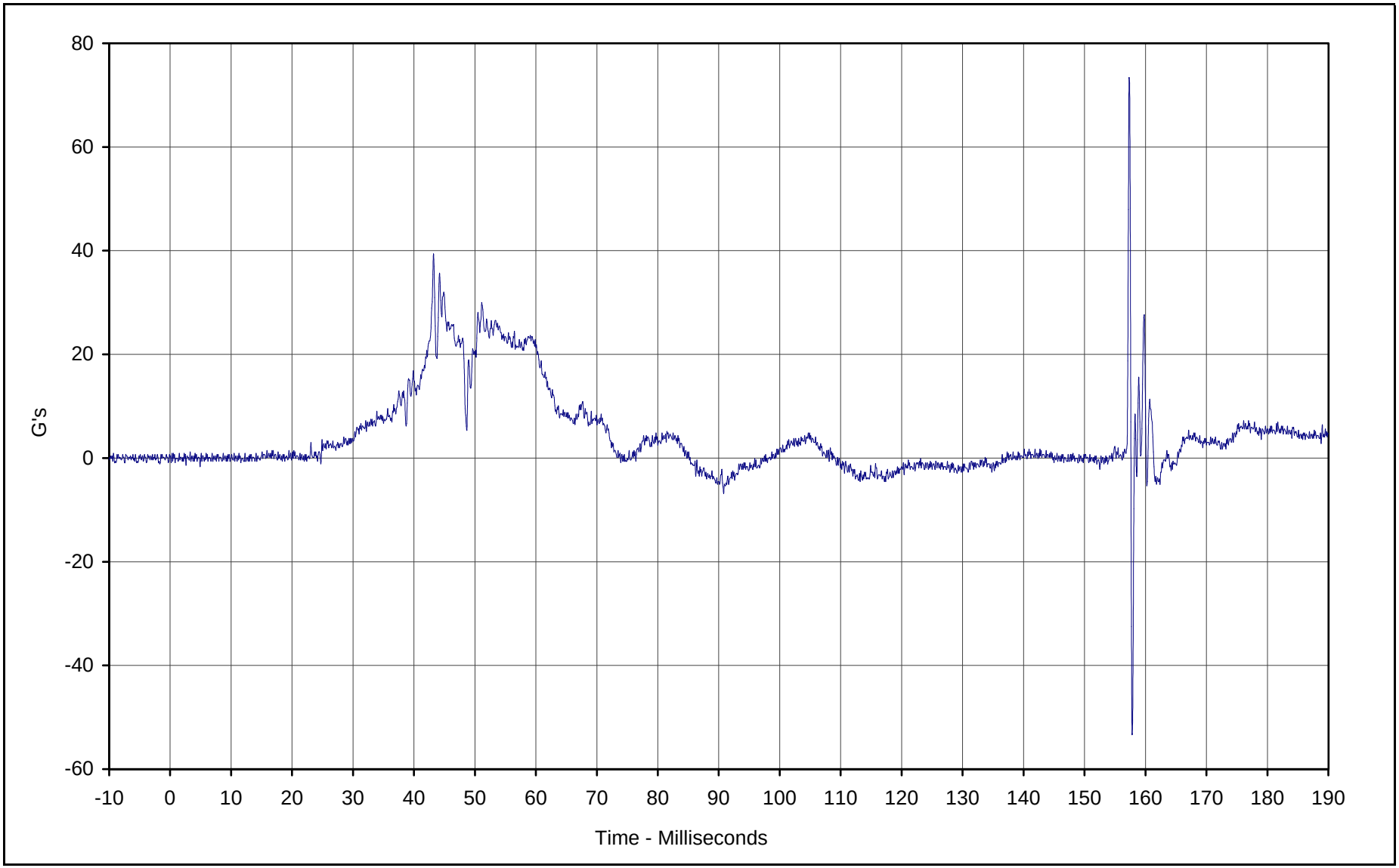
Date of Test: 11/30/00

Curve Number: IN1-004

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

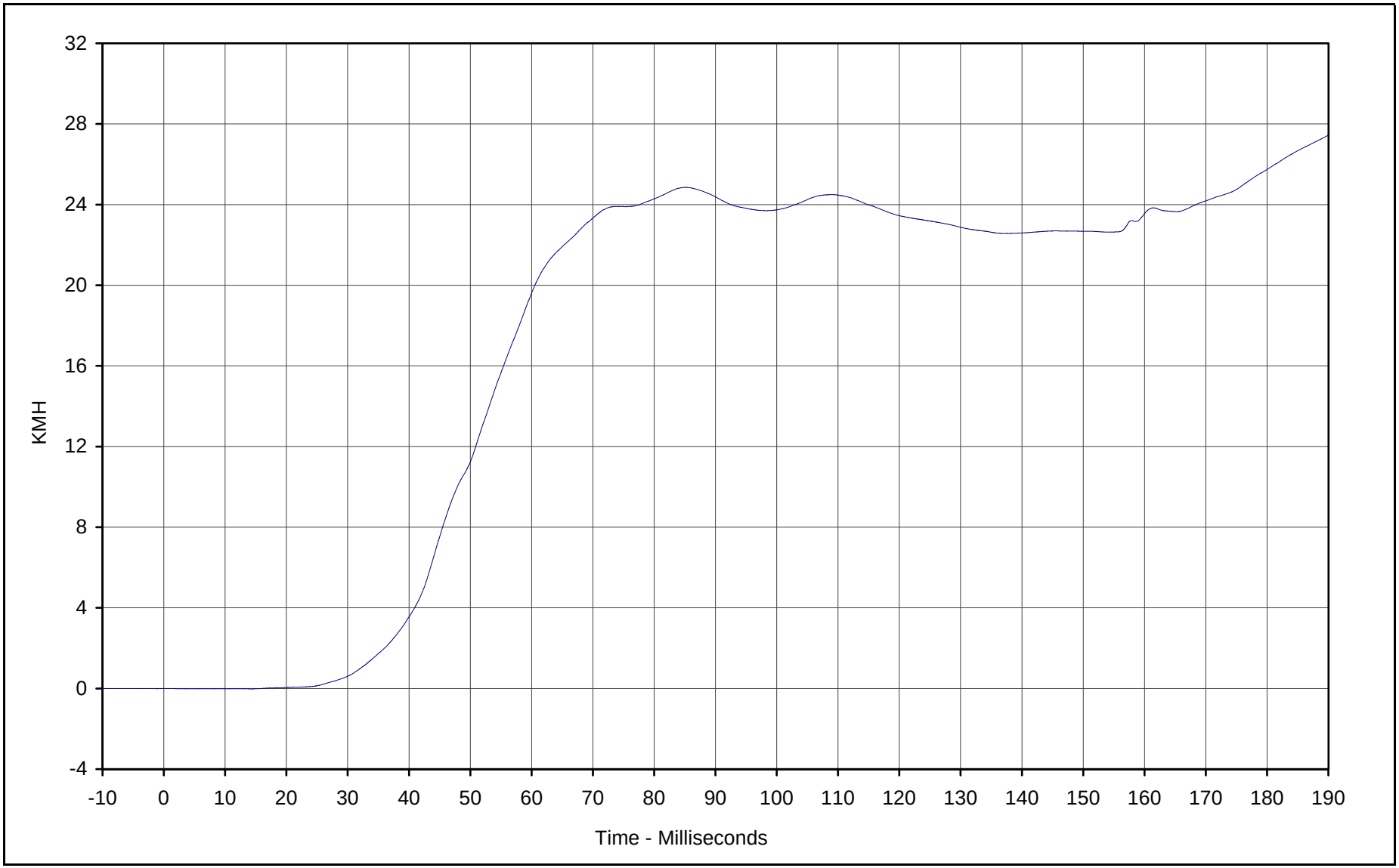
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Driver Lower Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	73.3	at	157.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-53.1	at	157.8 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-005				

KARC Engineering



Curve Description: Driver Lower Rib Primary Y Velocity

Maximum Value: 27.4 at 189.9 Milliseconds

Minimum Value: 0.0 at 14.3 Milliseconds

SAE Filter Class: 180

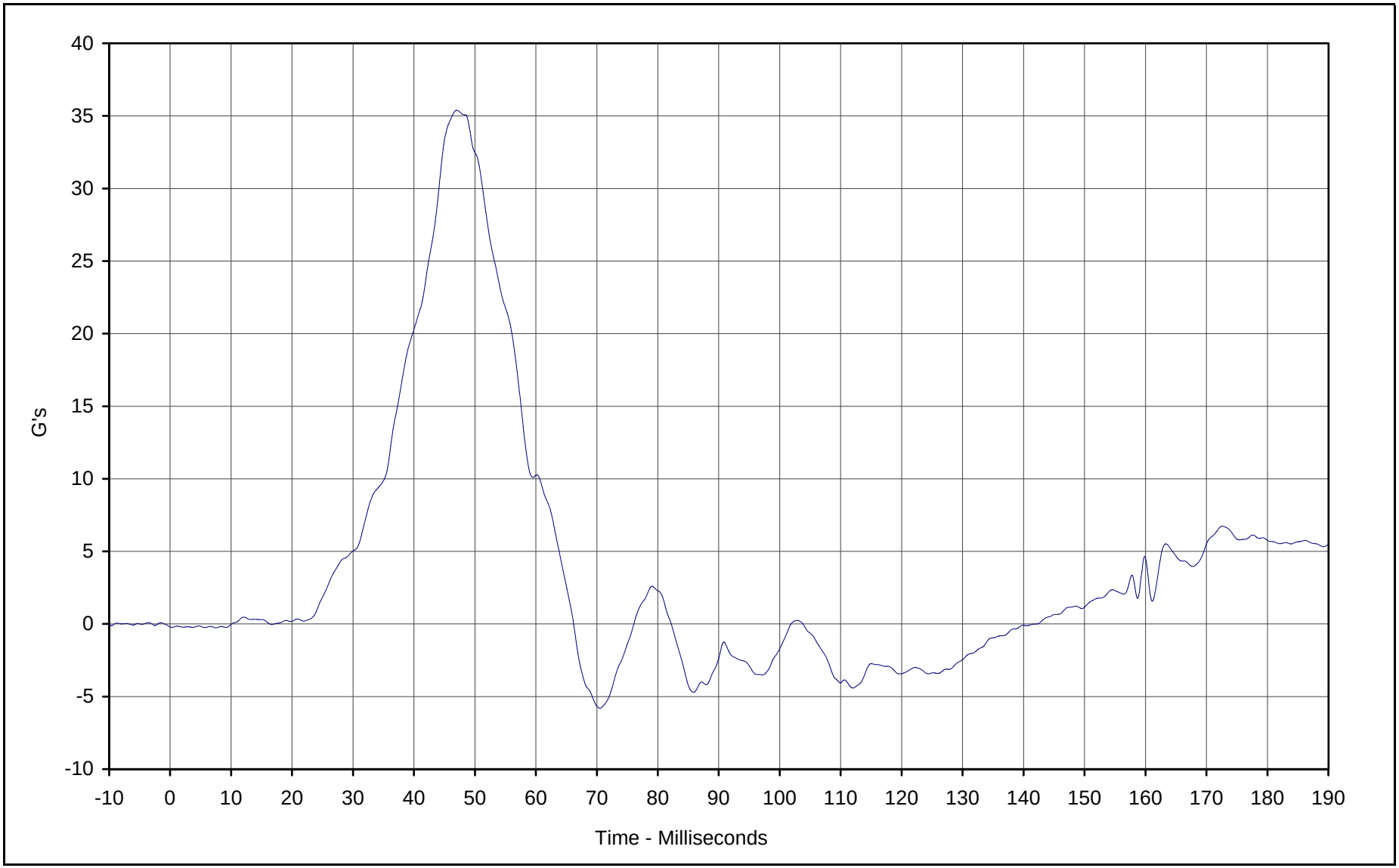
Date of Test: 11/30/00

Curve Number: IN1-005

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

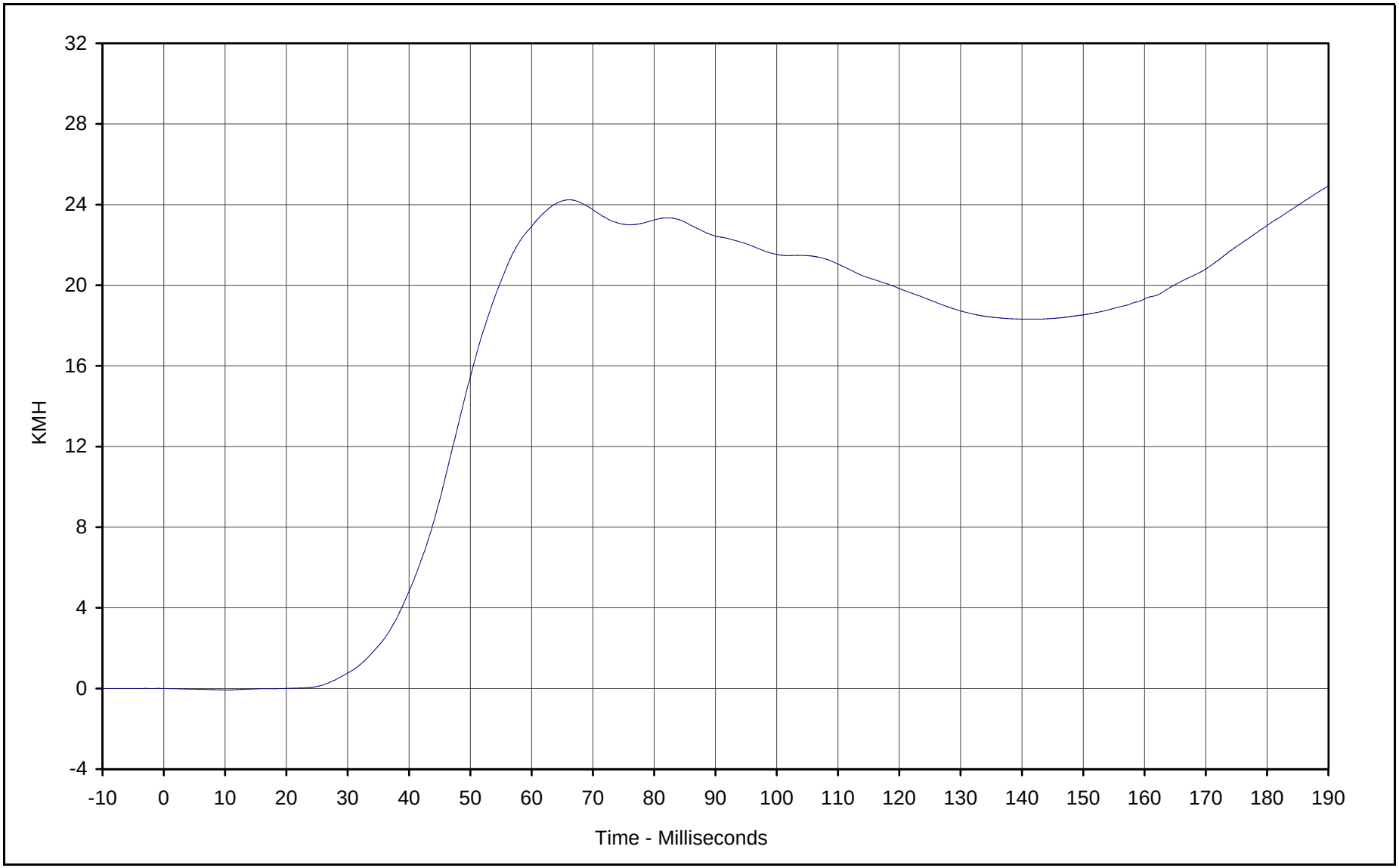
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Driver Lower Spine Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	35.4	at	47.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-5.8	at	70.5 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	FIL-006				

KARC Engineering



Curve Description: Driver Lower Spine Primary Y Velocity

Maximum Value: 24.9 at 189.9 Milliseconds

Minimum Value: -0.1 at 10.1 Milliseconds

SAE Filter Class: 180

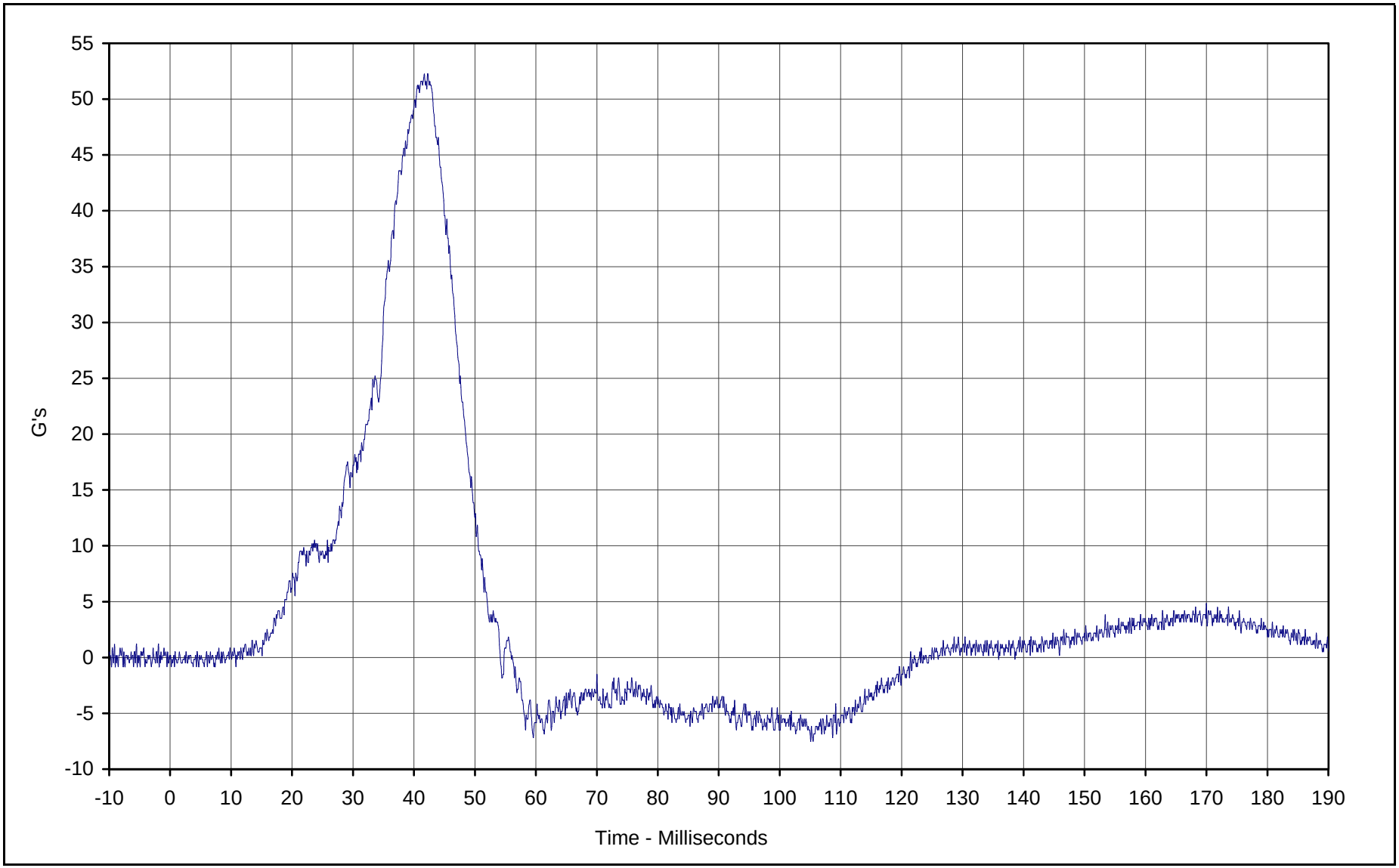
Date of Test: 11/30/00

Curve Number: IN1-006

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

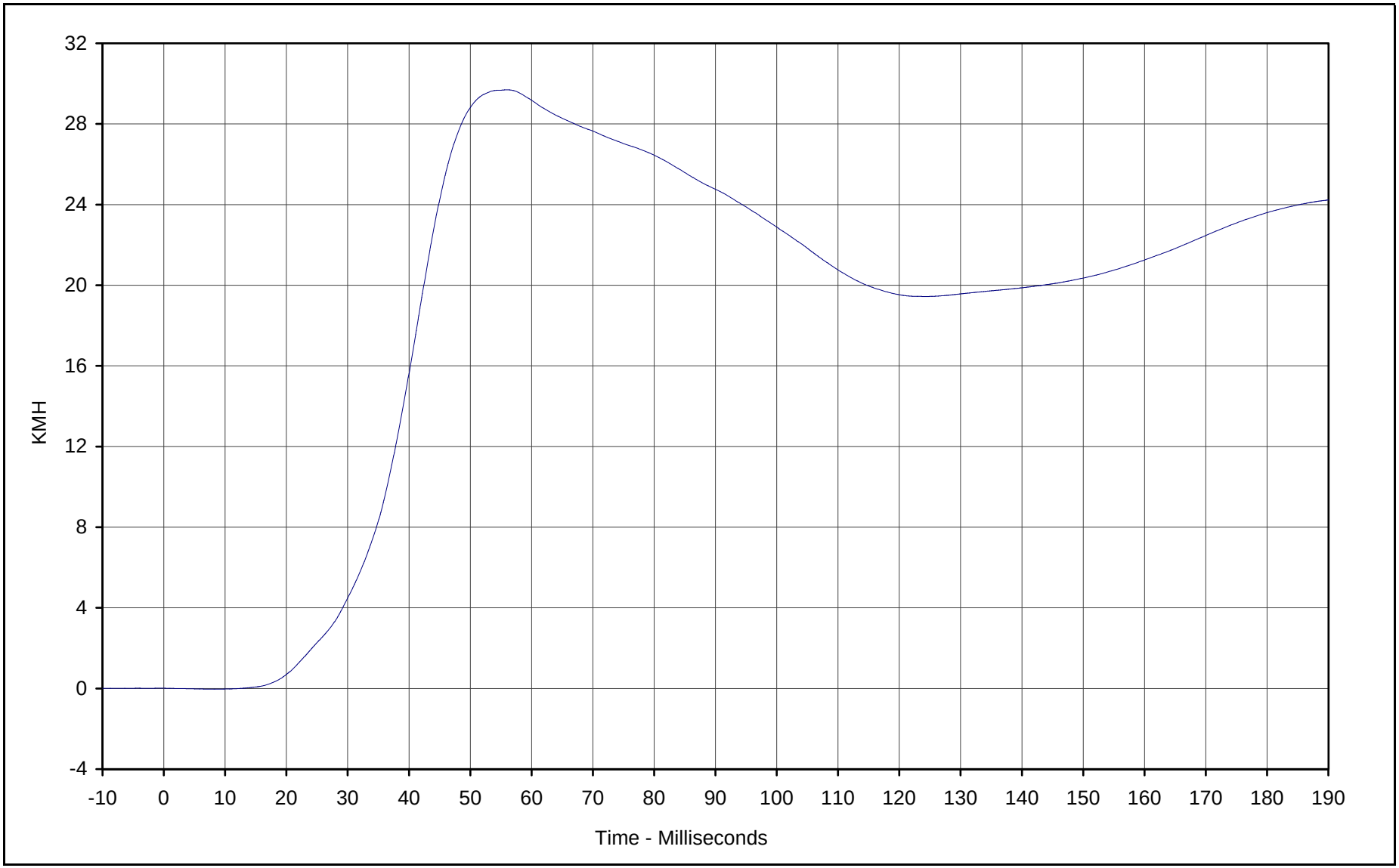
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



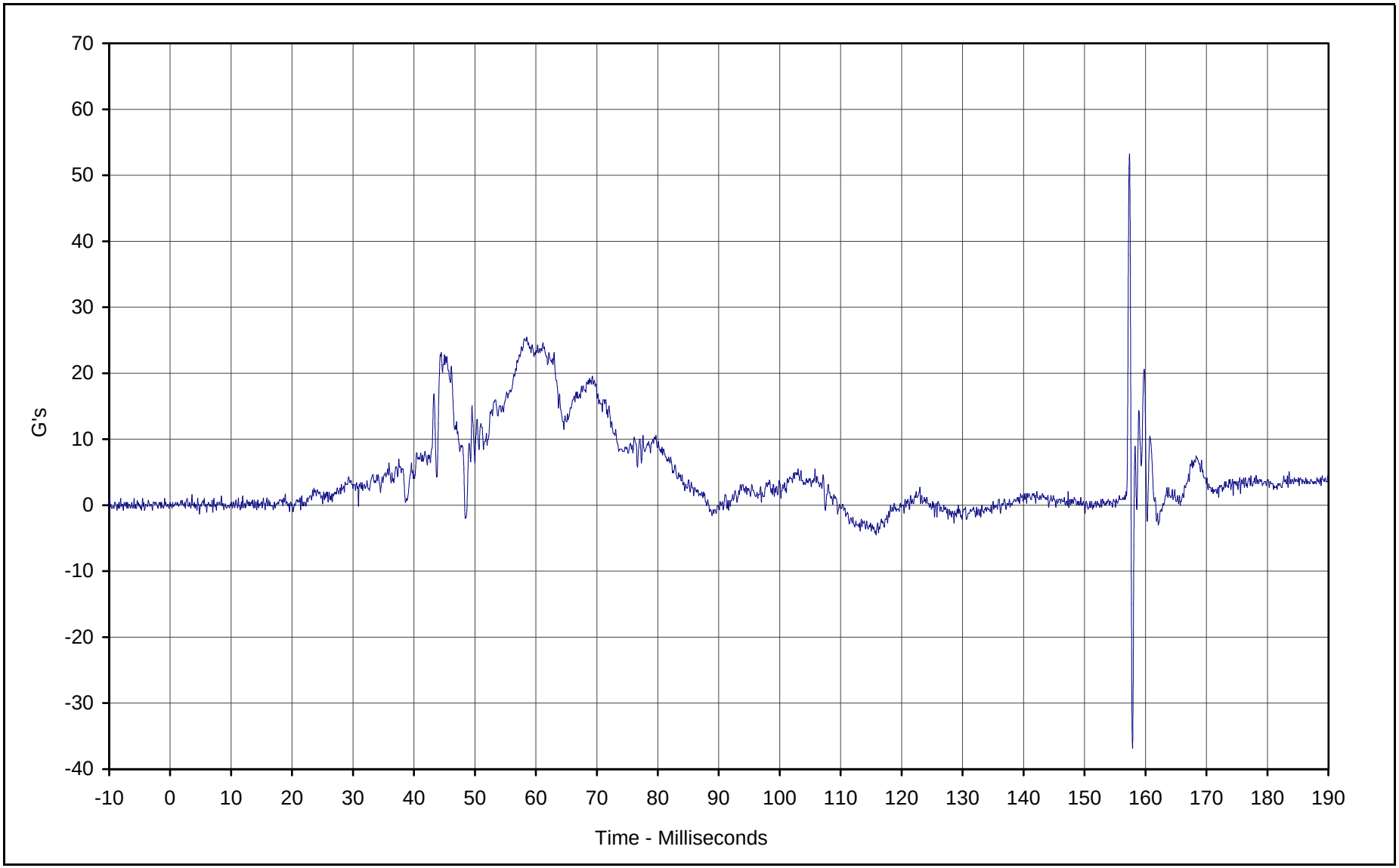
Curve Description:	Driver Pelvis Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	52.3	at	41.7 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.5	at	105.1 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-007				

KARC Engineering



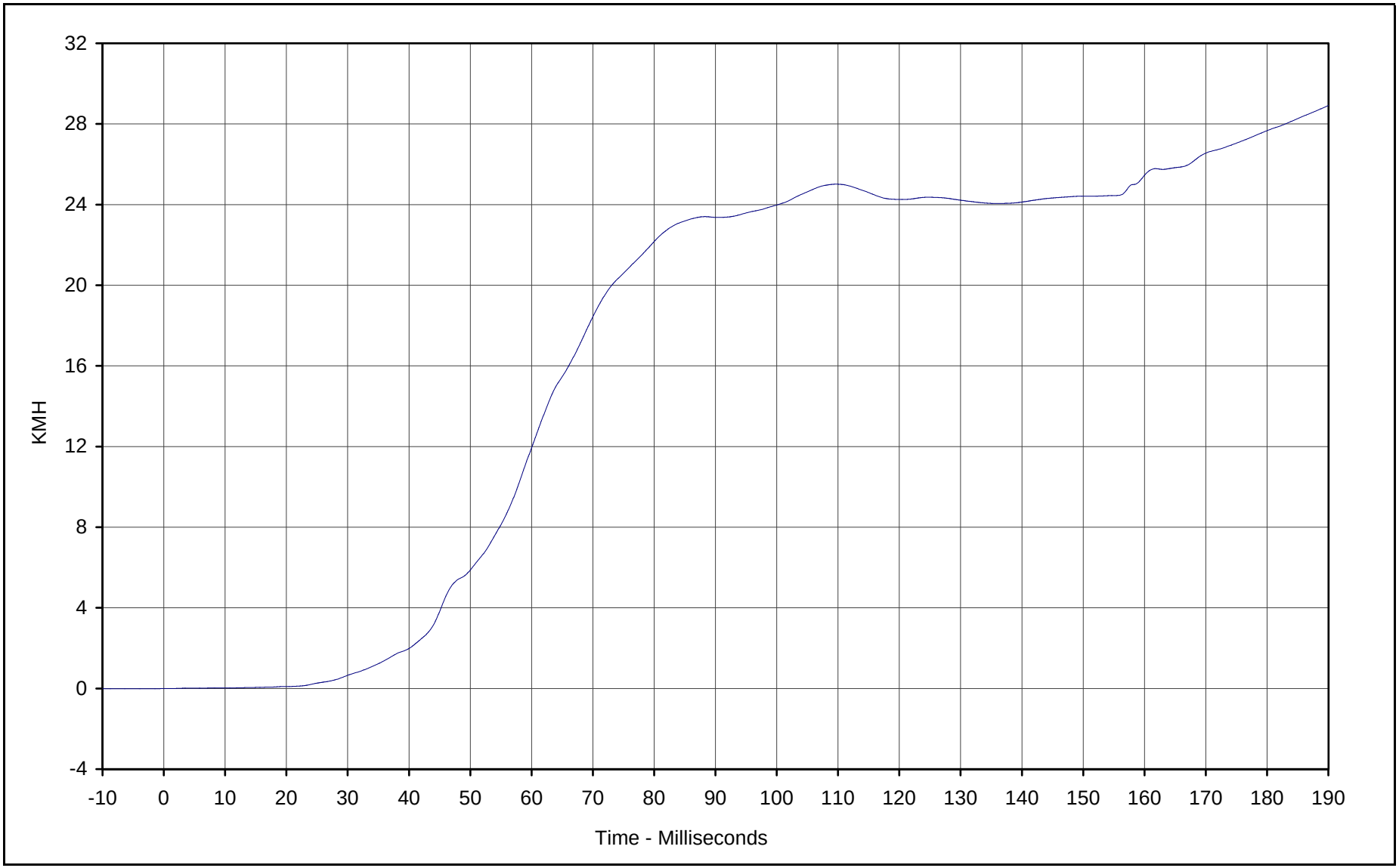
Curve Description:	Driver Pelvis Primary Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	29.7	at	56.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	7.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-007				

KARCO Engineering



Curve Description:	Driver Upper Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	53.1	at	157.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-36.7	at	157.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-008				

KARC Engineering



Curve Description: Driver Upper Rib Redundant Y Velocity

Maximum Value: 28.9 at 189.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

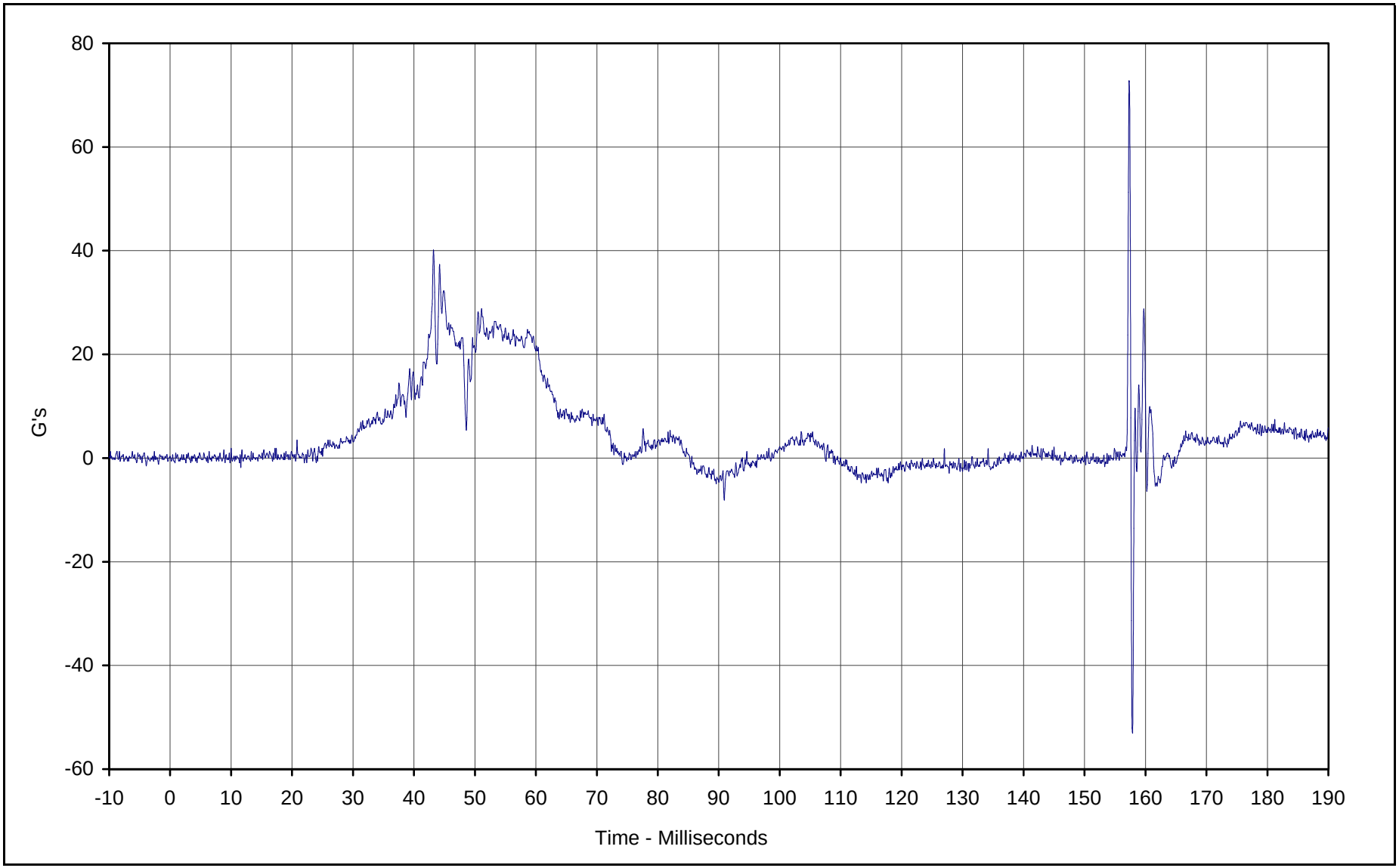
Date of Test: 11/30/00

Curve Number: IN1-008

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

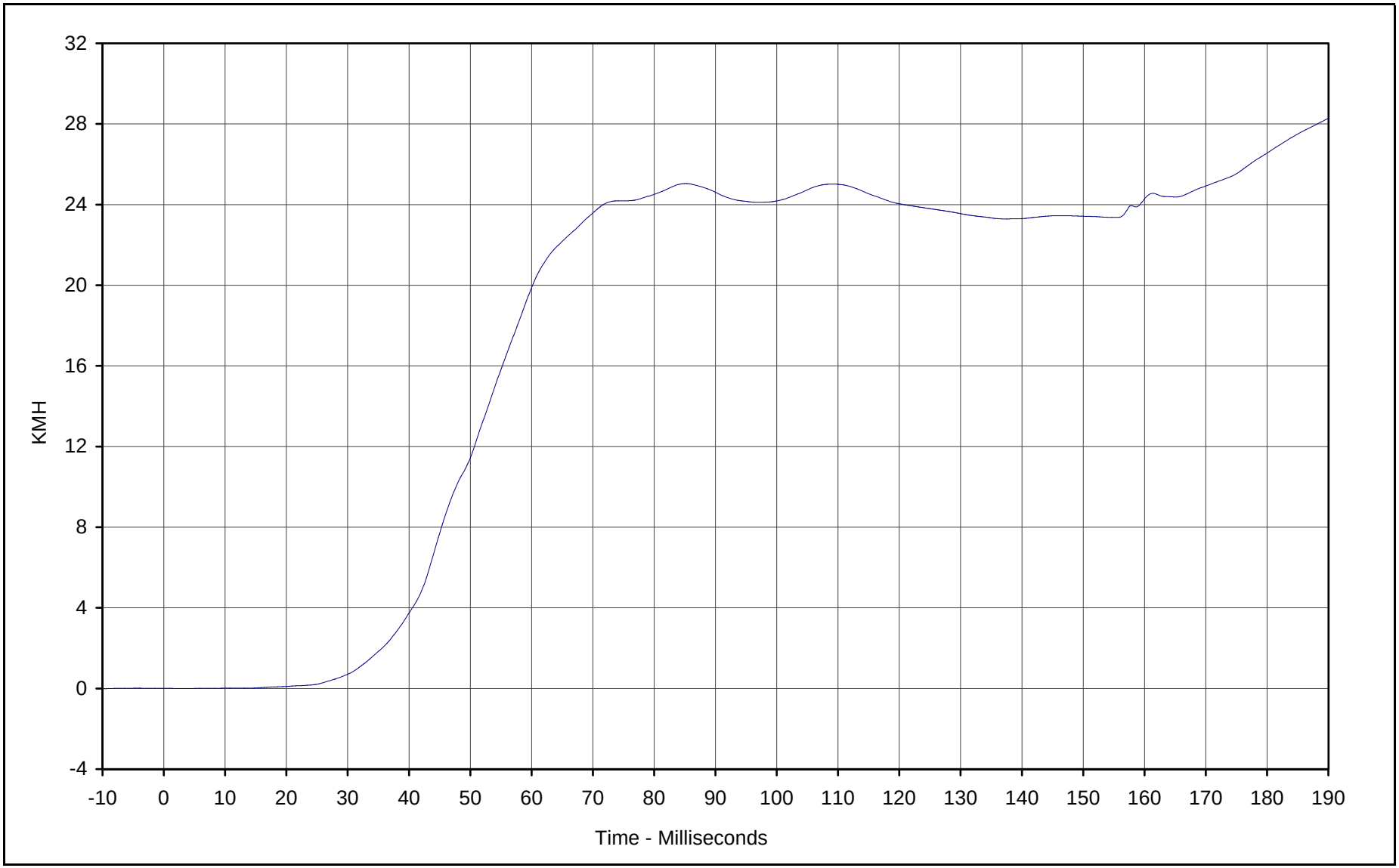
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Driver Lower Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	72.6	at	157.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-53.0	at	157.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-009				

KARC Engineering



Curve Description: Driver Lower Rib Redundant Y Velocity

Maximum Value: 28.3 at 189.9 Milliseconds

Minimum Value: 0.0 at 3.8 Milliseconds

SAE Filter Class: 180

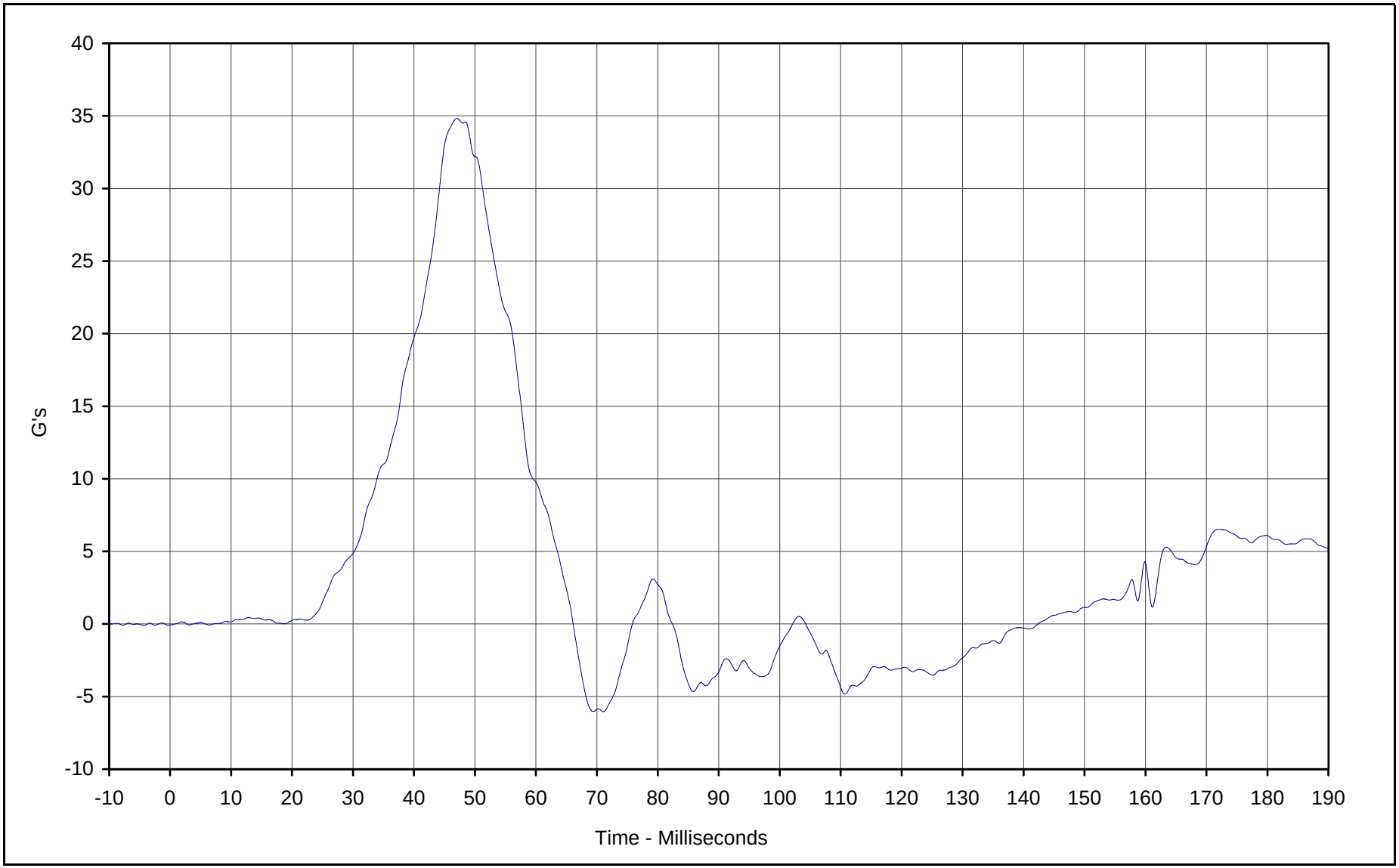
Date of Test: 11/30/00

Curve Number: IN1-009

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

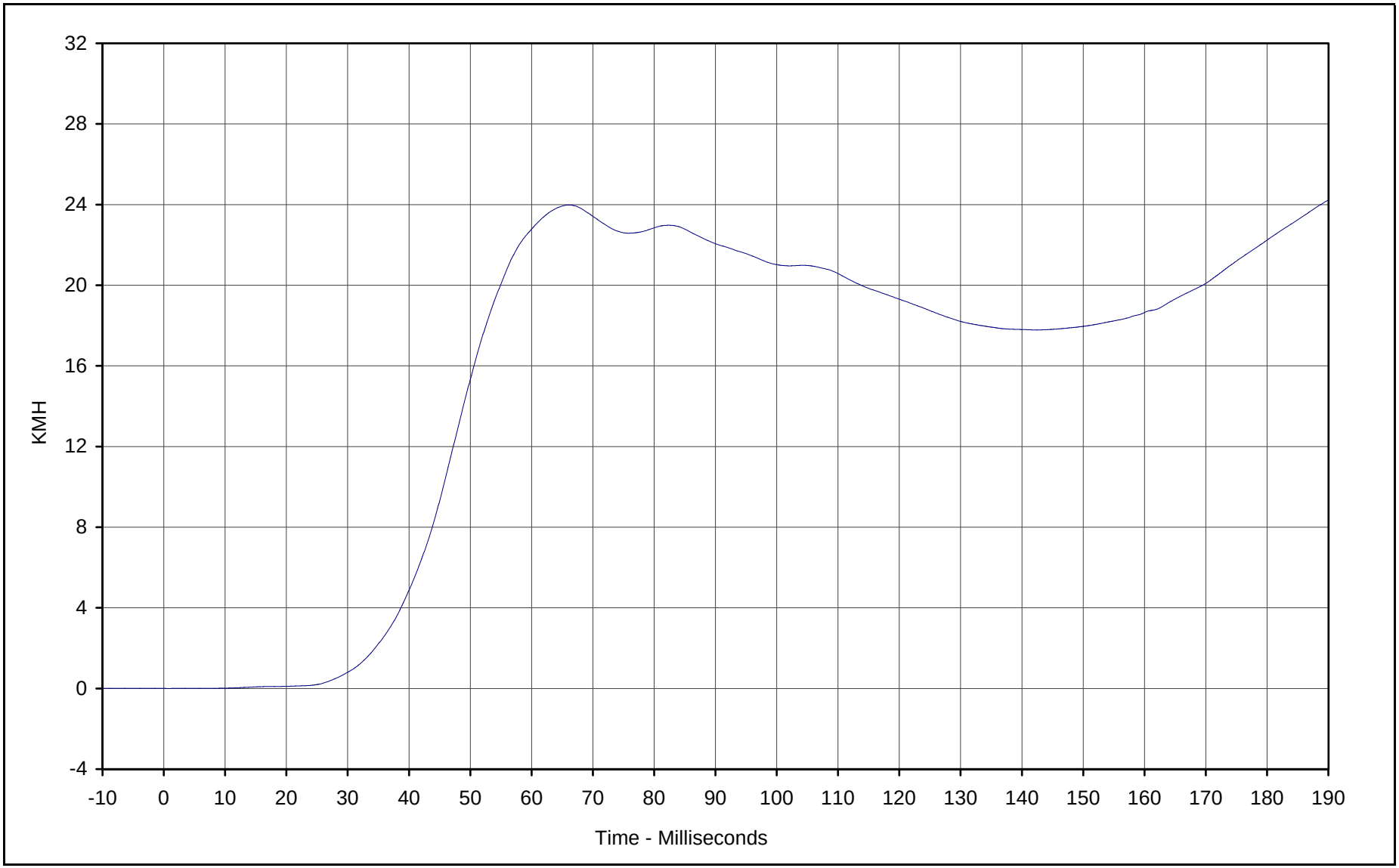
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Driver Lower Spine Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	34.8	at	47.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.0	at	71.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	FIL-010				

KARC Engineering



Curve Description: Driver Lower Spine Redundant Y Velocity

Maximum Value: 24.2 at 189.9 Milliseconds

Minimum Value: 0.0 at 0.7 Milliseconds

SAE Filter Class: 180

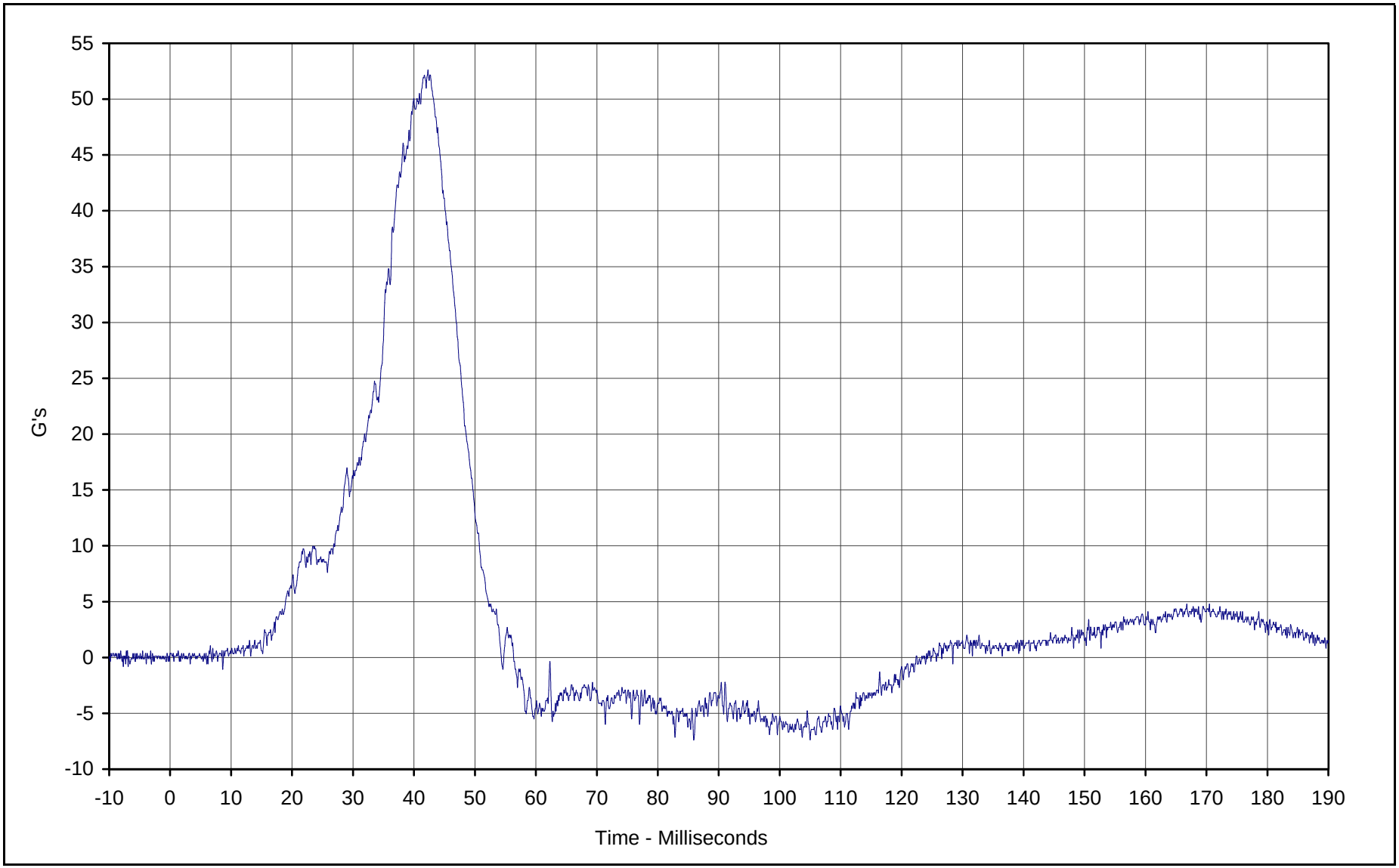
Date of Test: 11/30/00

Curve Number: IN1-0010

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

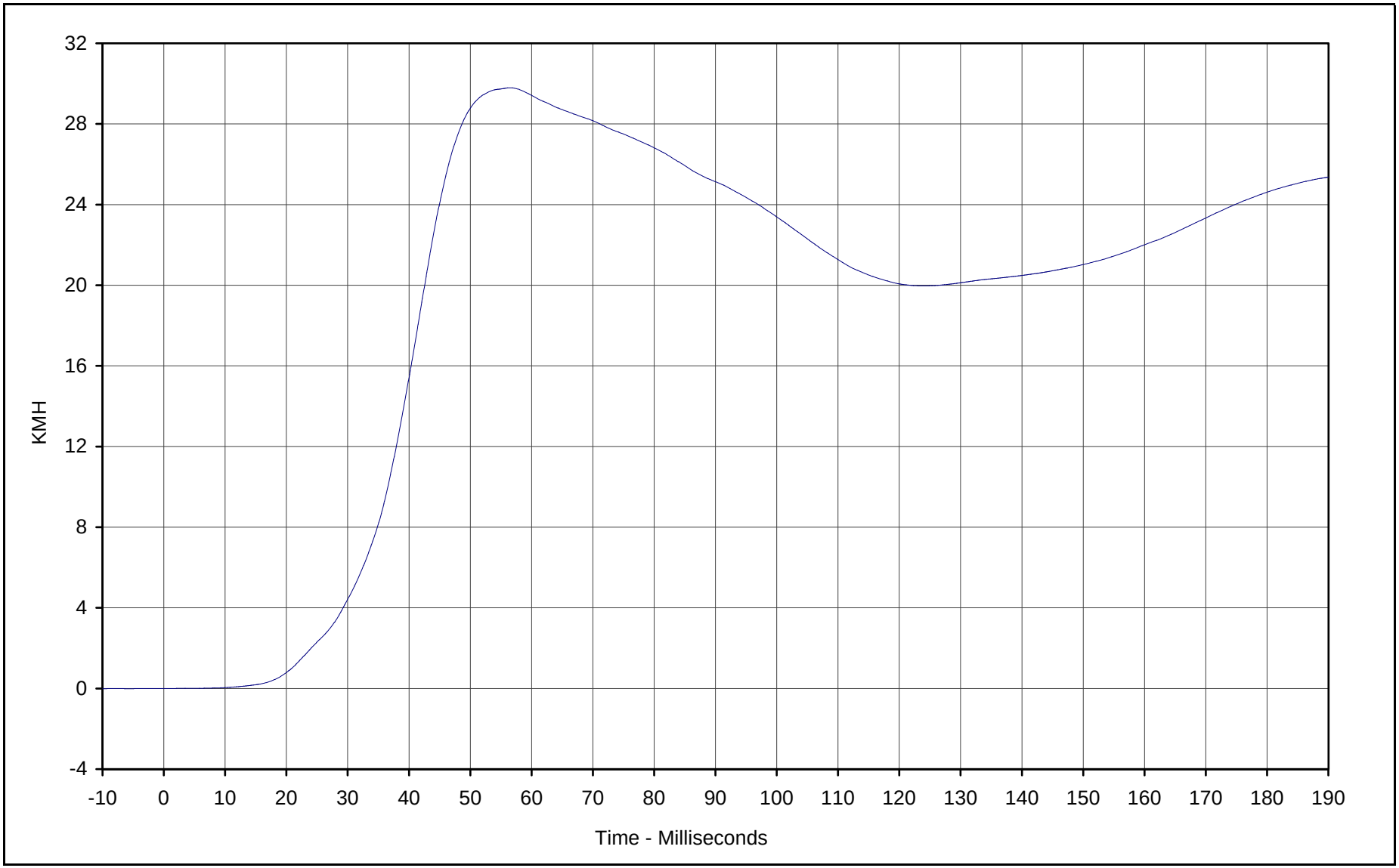
KARCO Engineering



Curve Description:	Driver Pelvis Redundant Y				
Maximum Value:	52.6	at	42.3	Milliseconds	
Minimum Value:	-7.4	at	85.9	Milliseconds	
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-011				

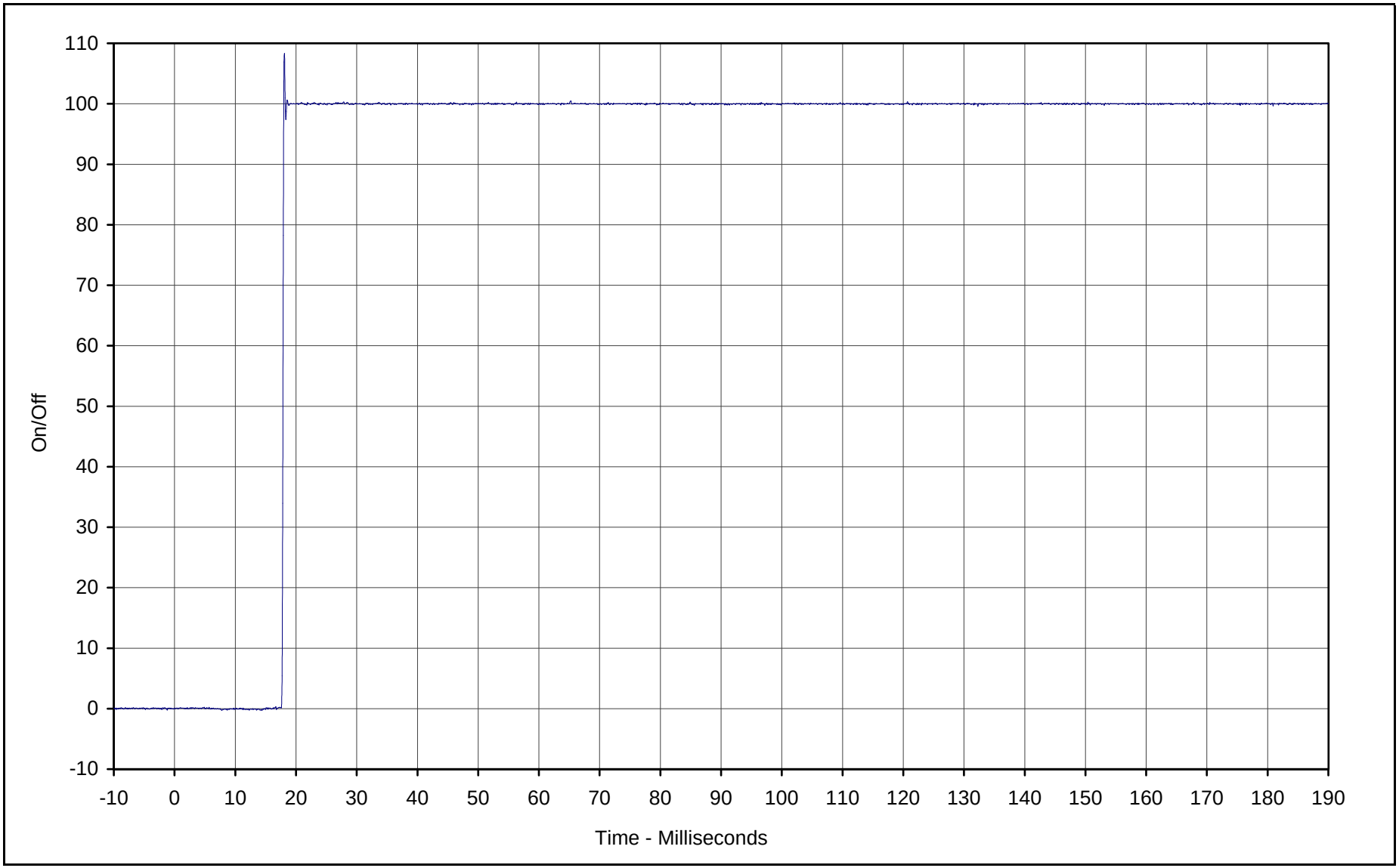
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



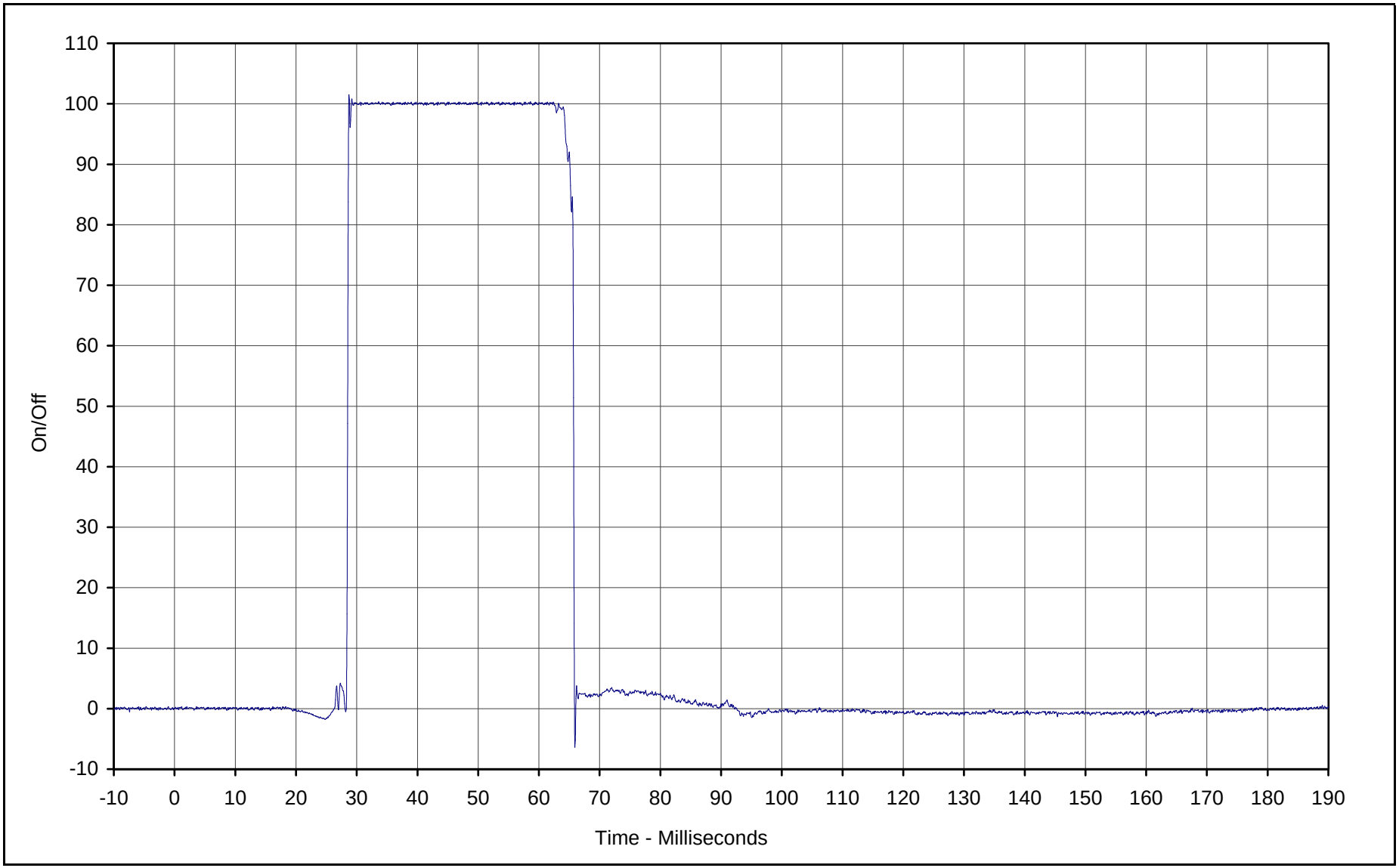
Curve Description:	Driver Pelvis Redundant Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	29.8	at	56.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.0 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-011				

KARCO Engineering



Curve Description:	Driver Thorax Contact			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	108.3	at	18.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Crossing Point:	50%	at	17.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-012				

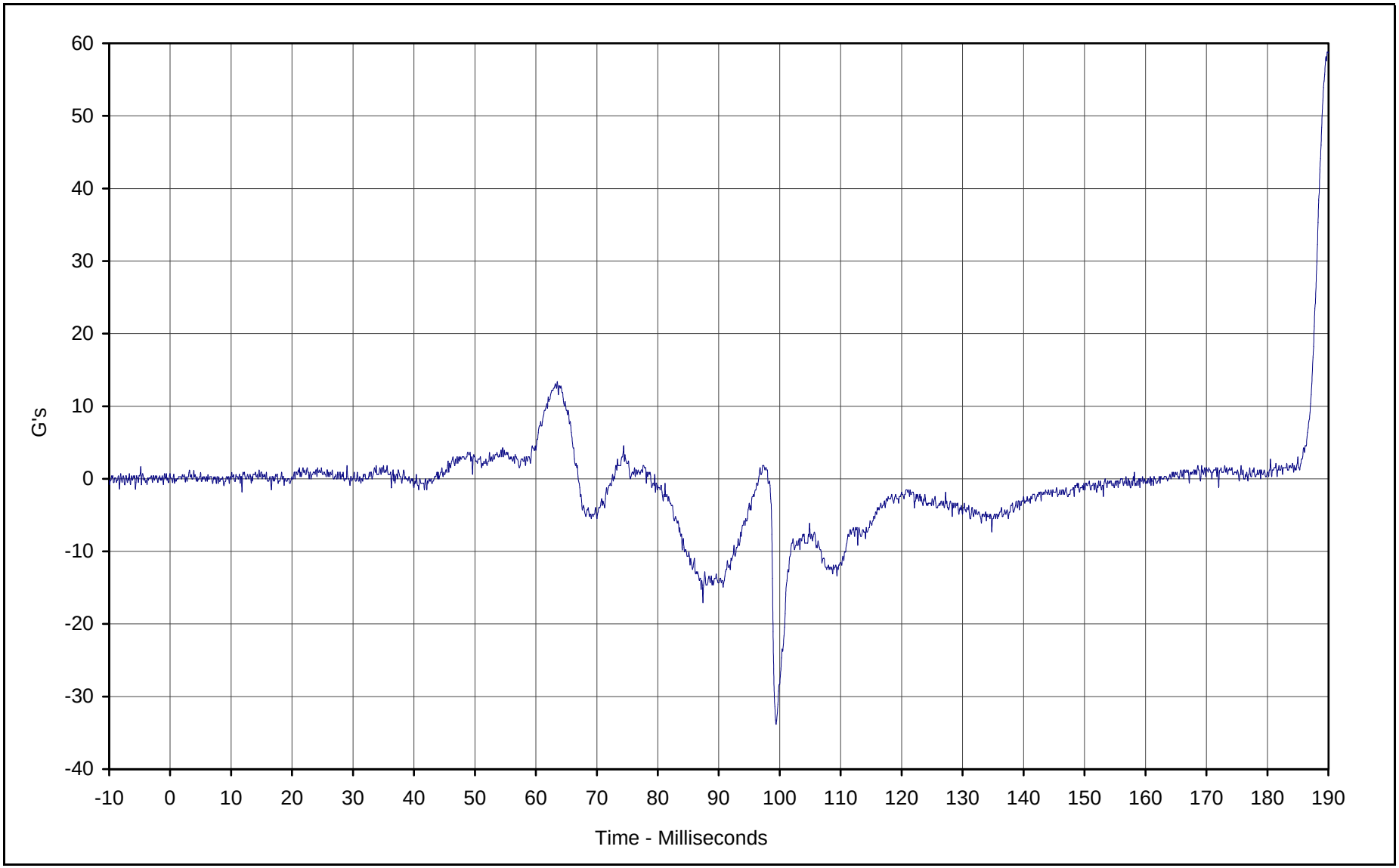
KARCO Engineering



Curve Description:	Driver Pelvis Contact			
Maximum Value:	101.5	at	28.7	Milliseconds
Crossing Point:	50%	at	28.6	Milliseconds
SAE Filter Class:	1000			
Date of Test:	11/30/00			
Curve Number:	FIL-013			

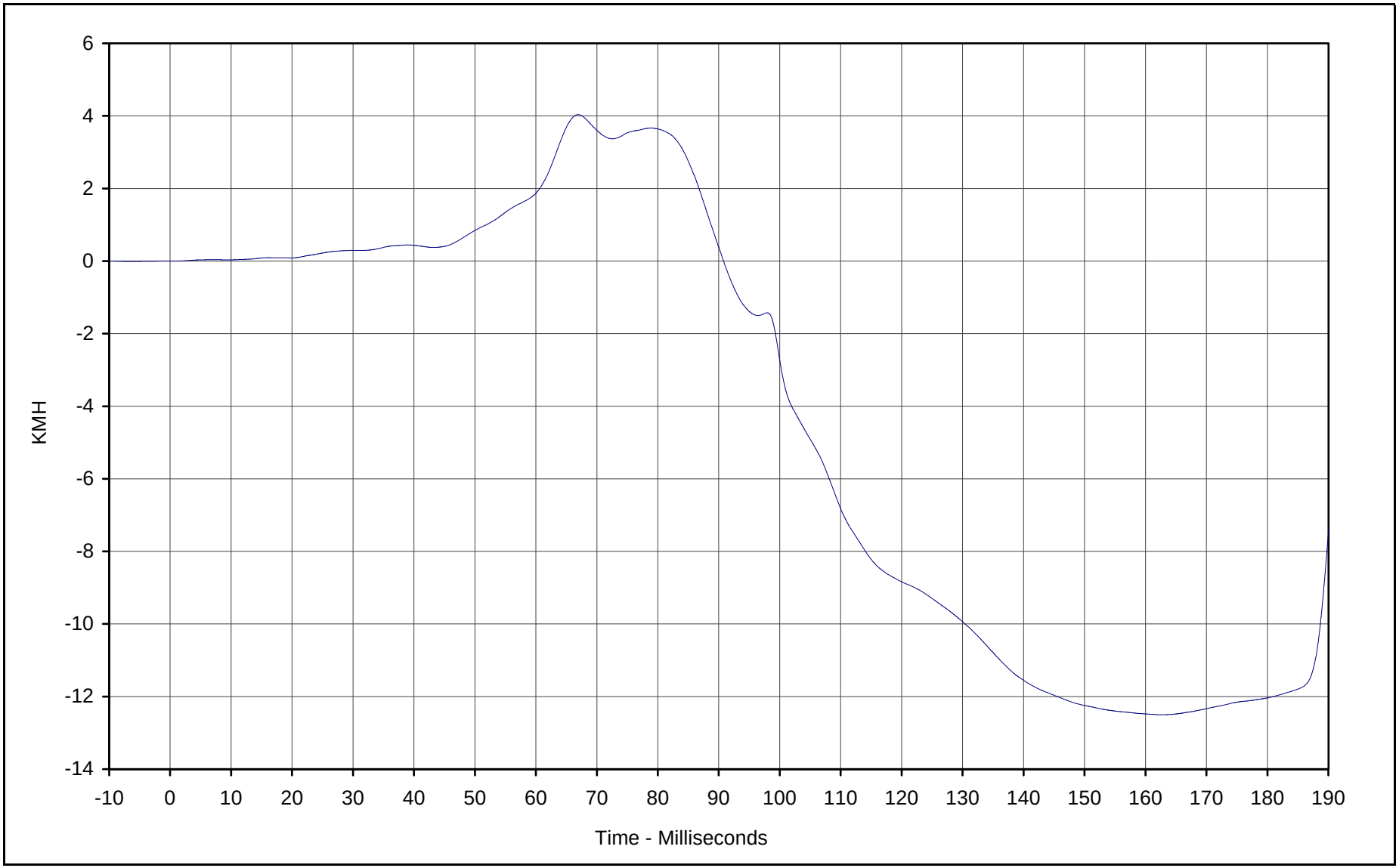
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



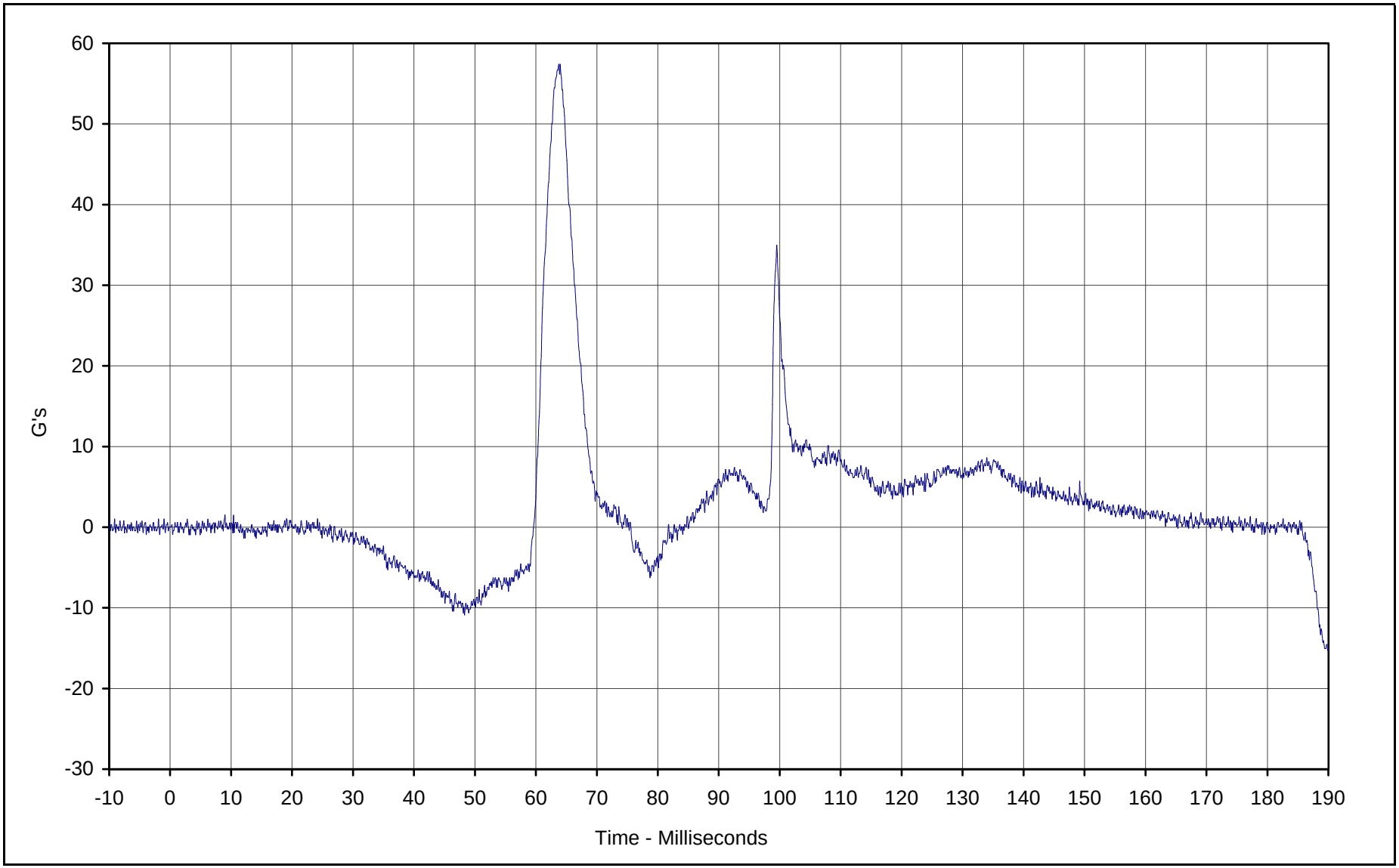
Curve Description:	Pass. Head CG X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	58.8	at	189.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-33.8	at	99.4 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-014				

KARC Engineering



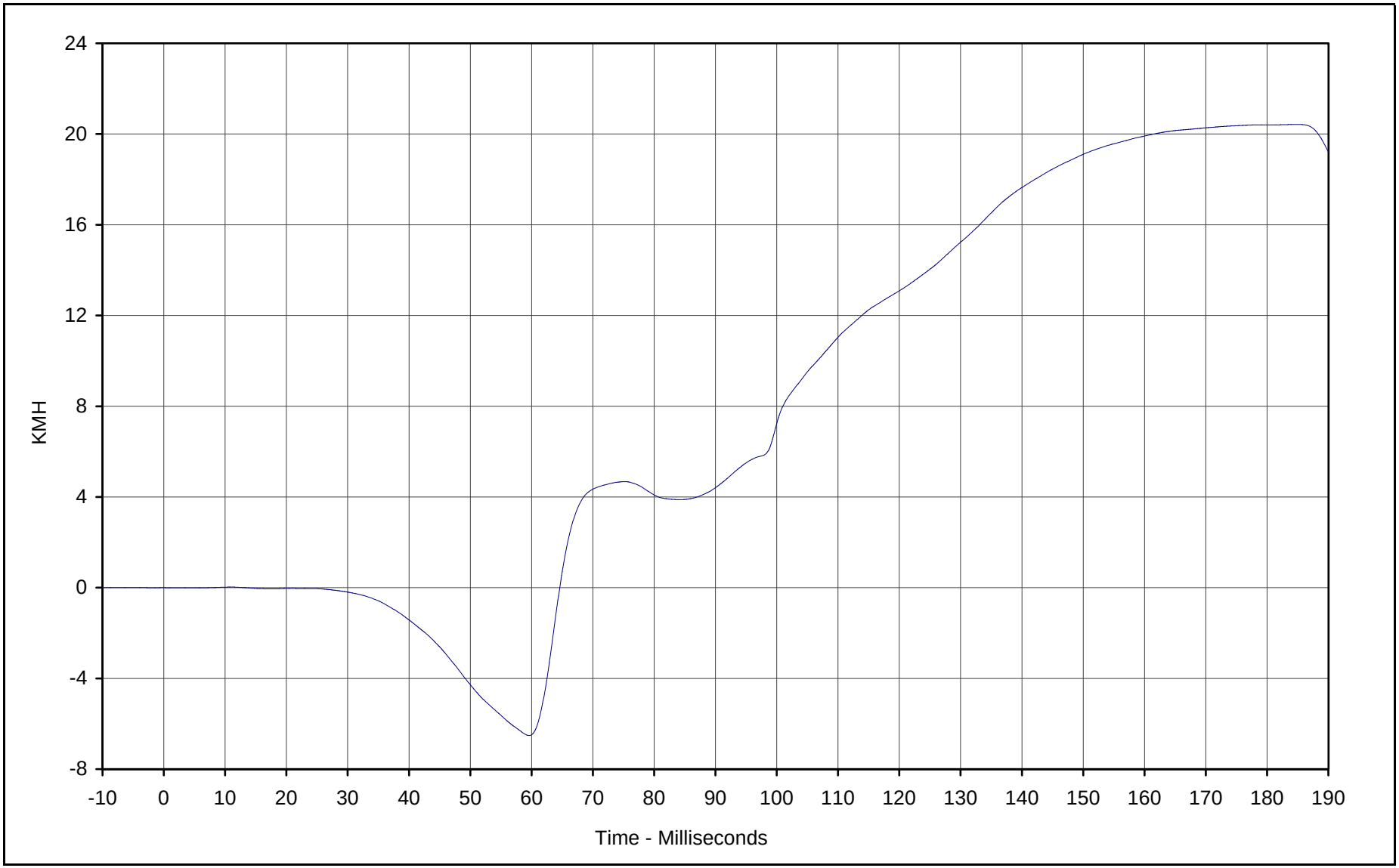
Curve Description:	Pass. Head CG X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	4.0	at	66.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-12.5	at	162.7 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-014				

KARCO Engineering



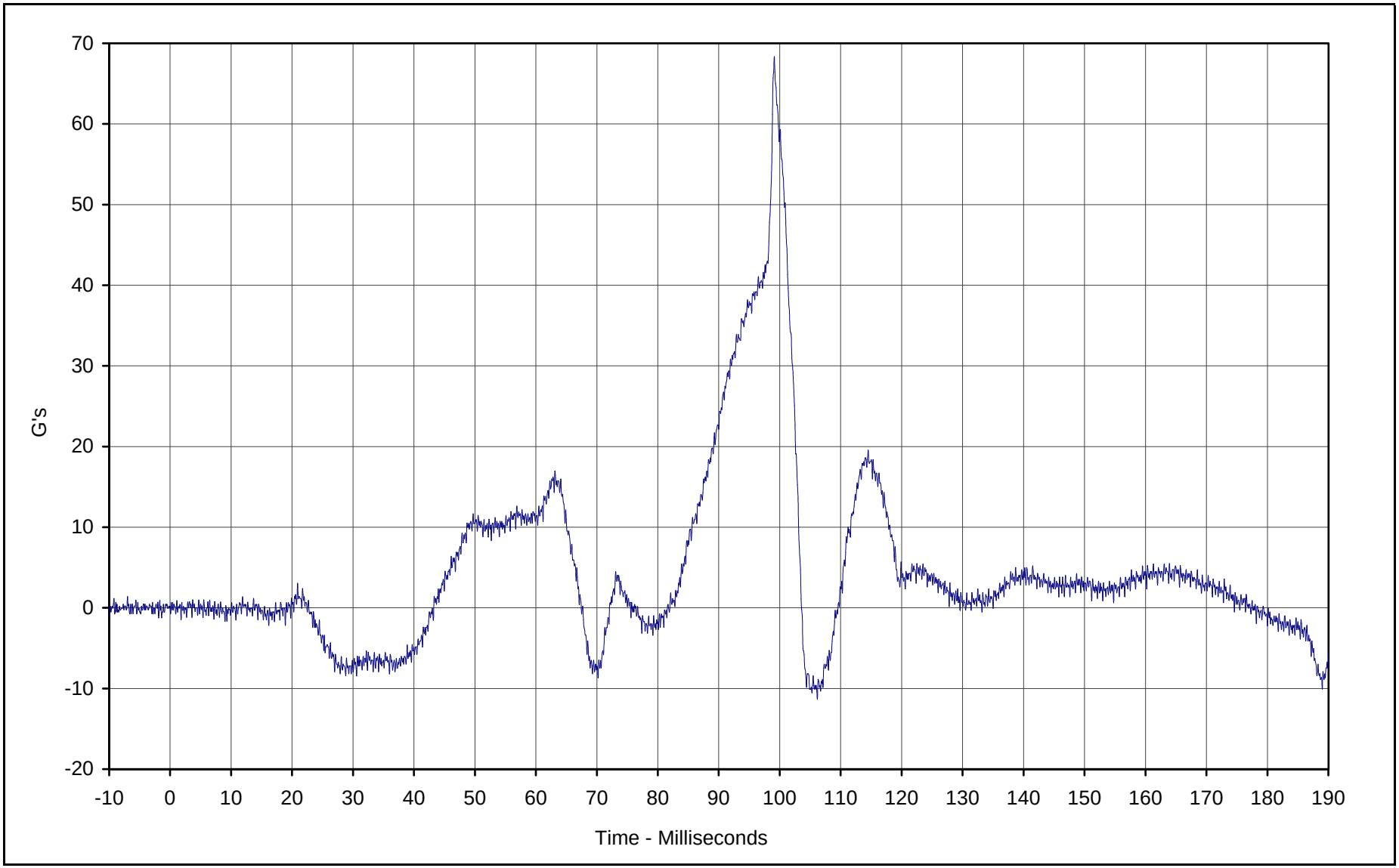
Curve Description:	Pass. Head CG Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	57.4	at	63.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-15.3	at	189.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-015				

KARCO Engineering



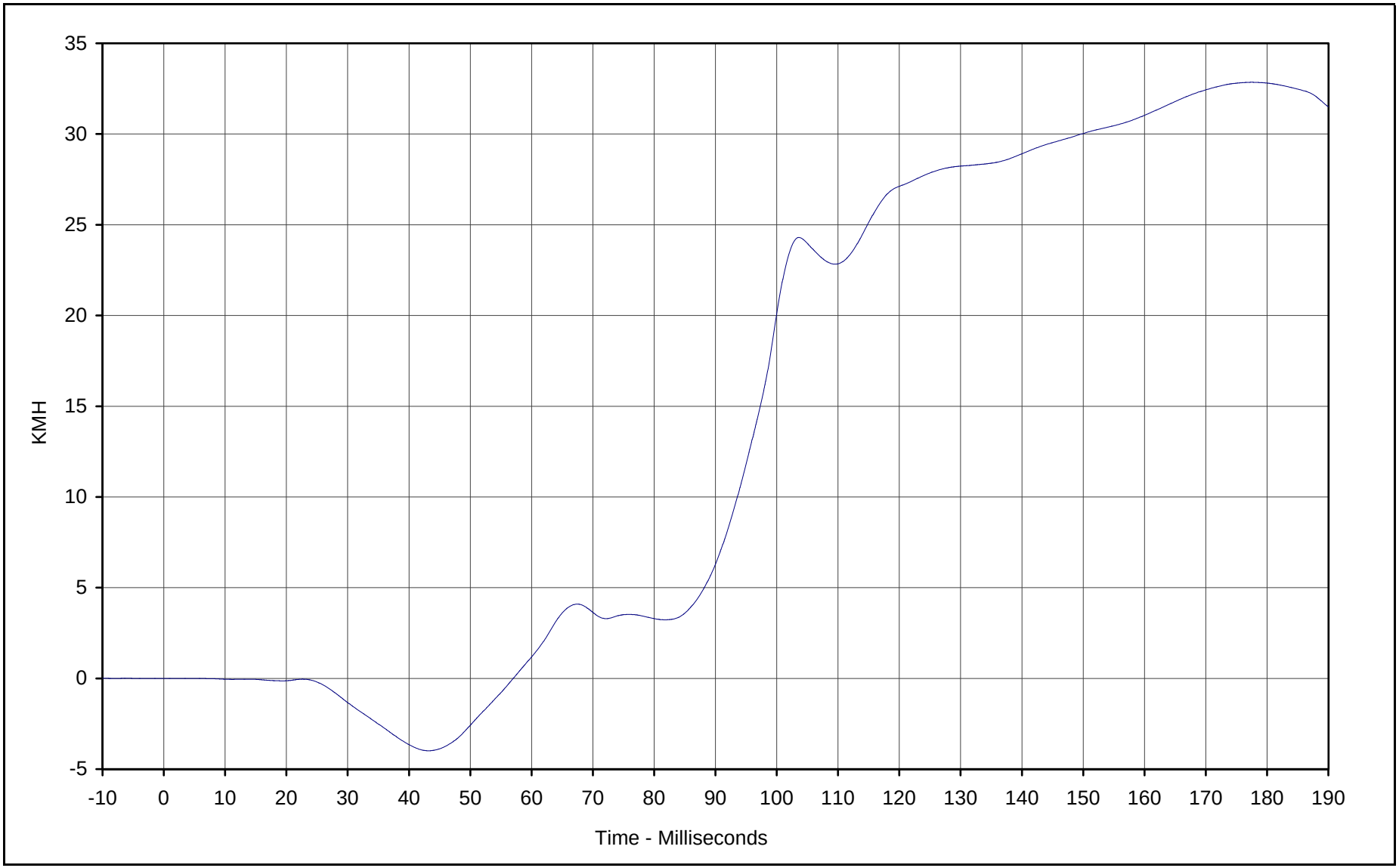
Curve Description:	Pass. Head CG Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	20.4	at	185.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.5	at	59.6 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-015				

KARCO Engineering



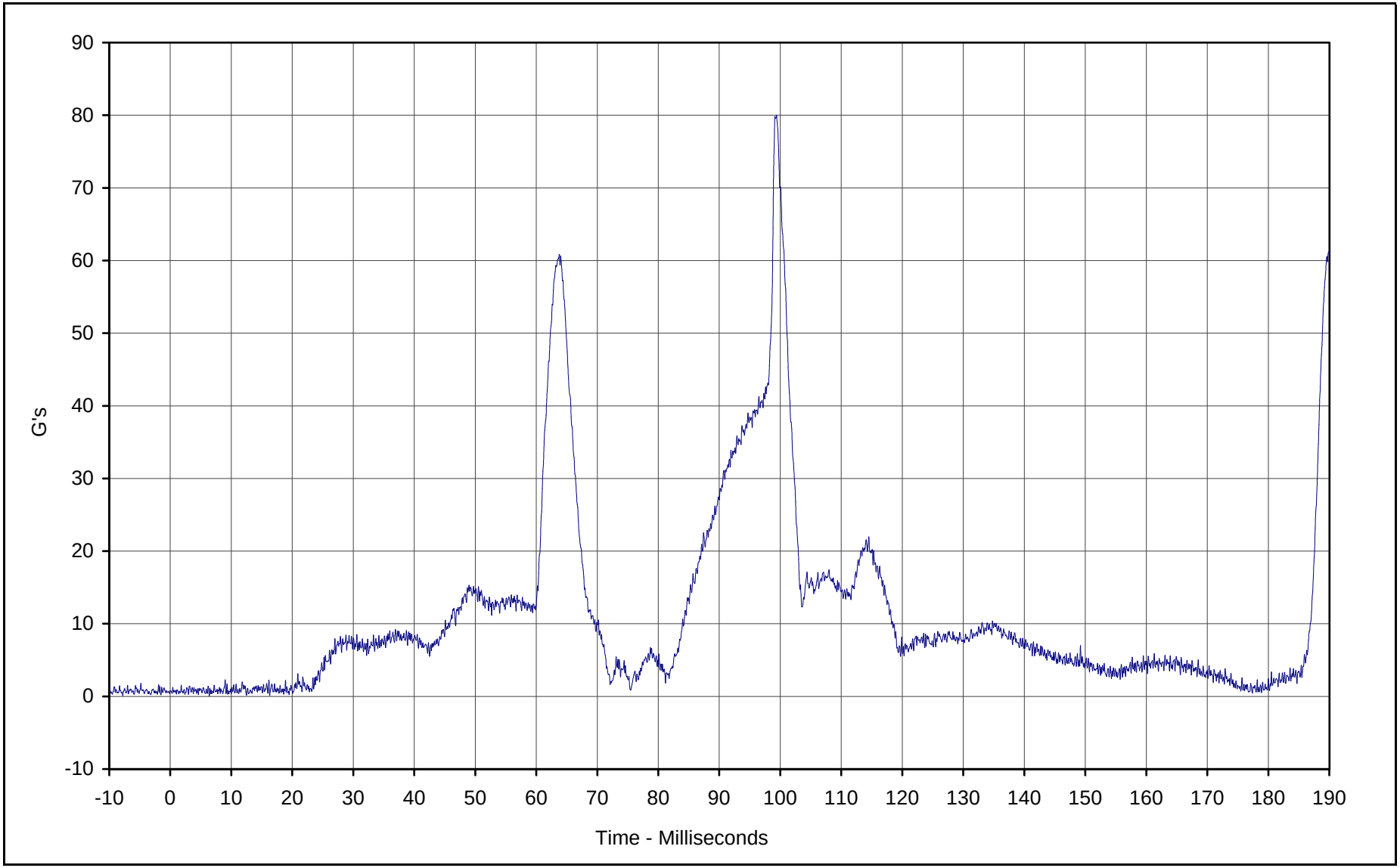
Curve Description:	Pass. Head CG Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	68.3	at	99.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-11.3	at	106.2 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-016				

KARCO Engineering



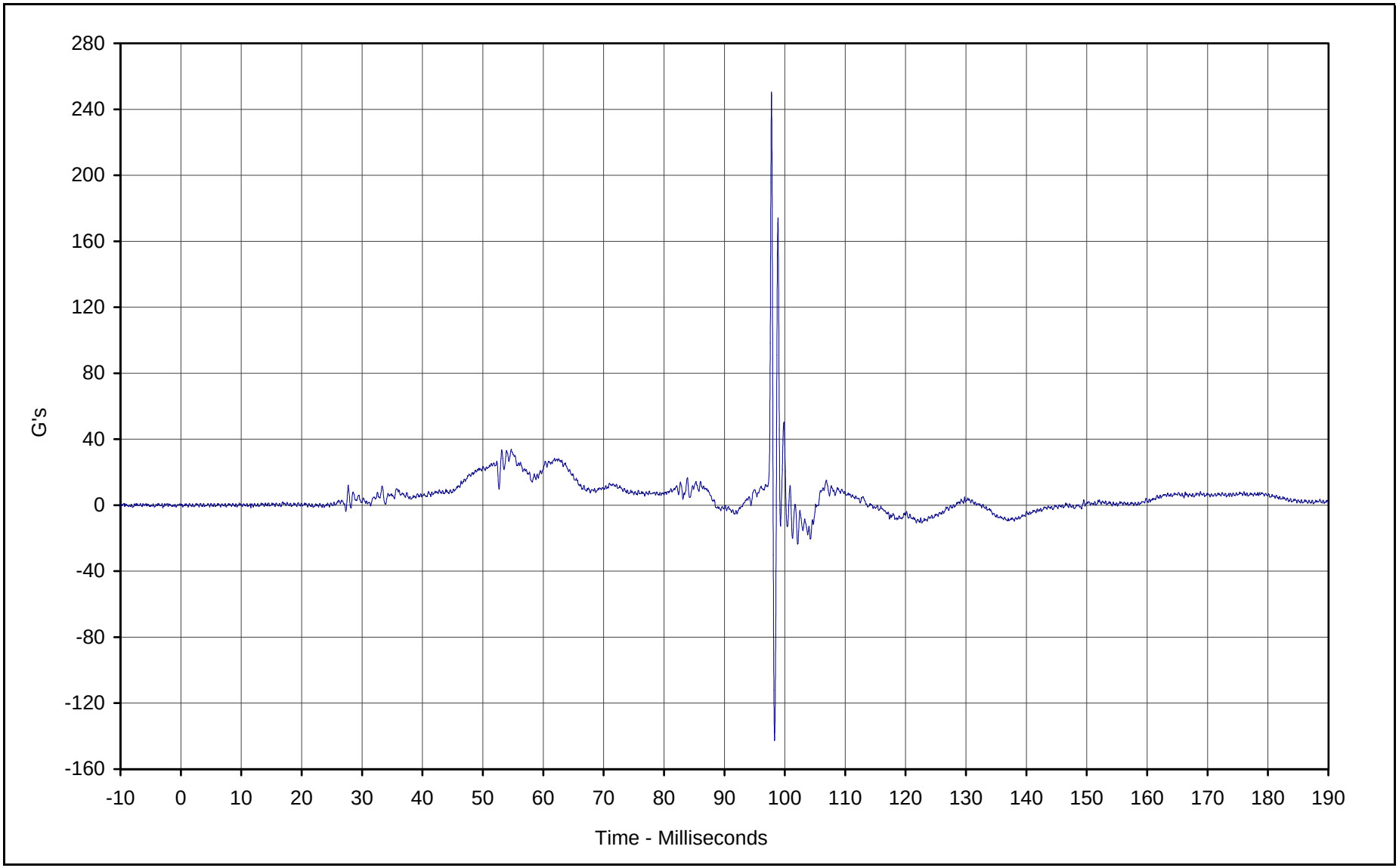
Curve Description:	Pass. Head CG Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	32.9	at	177.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-4.0	at	43.2 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-016				

KARCO Engineering



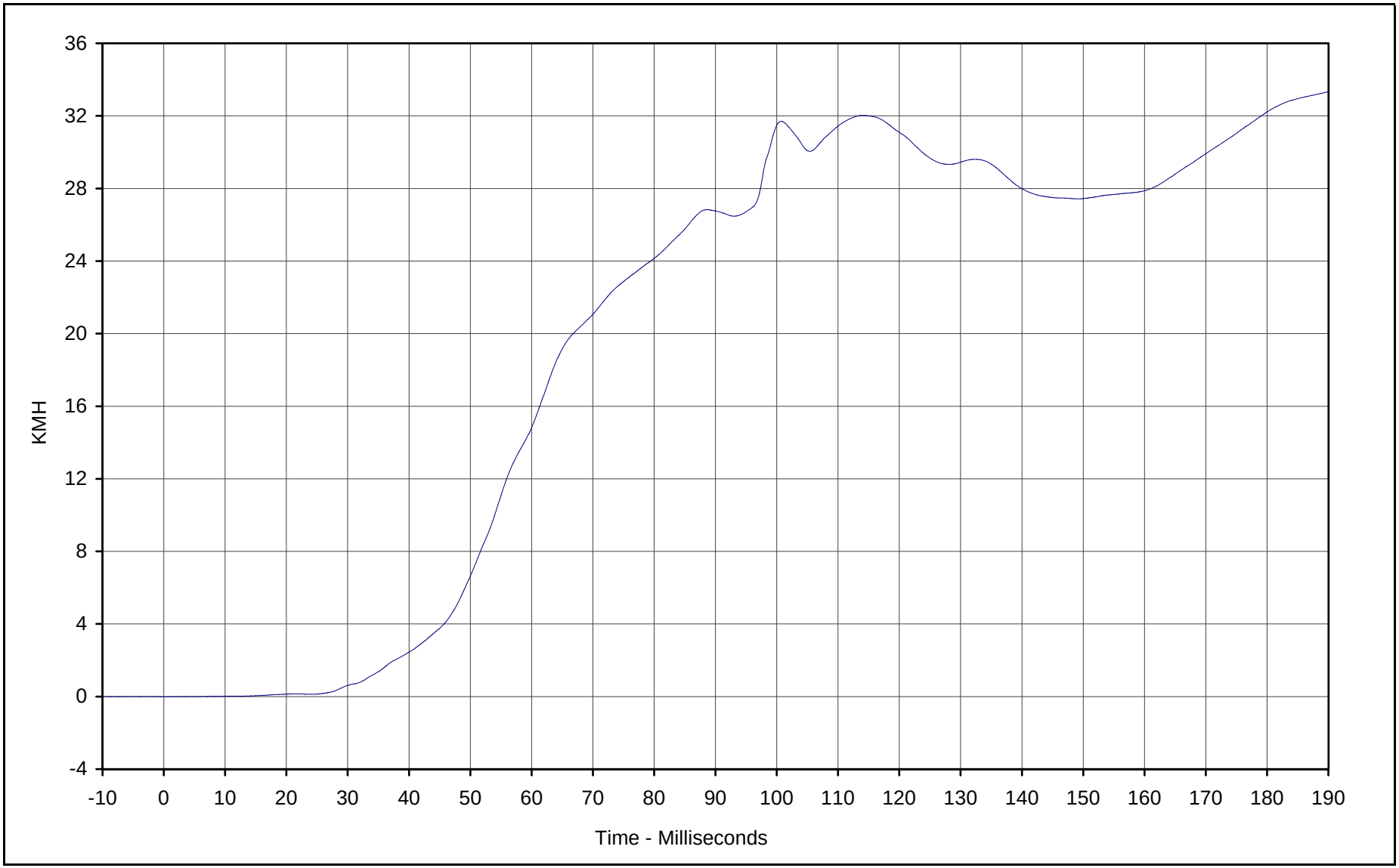
Curve Description:	Pass. Head CG Resultant			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	80.0	at	99.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	6.4 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	RES-014				

KARCO Engineering



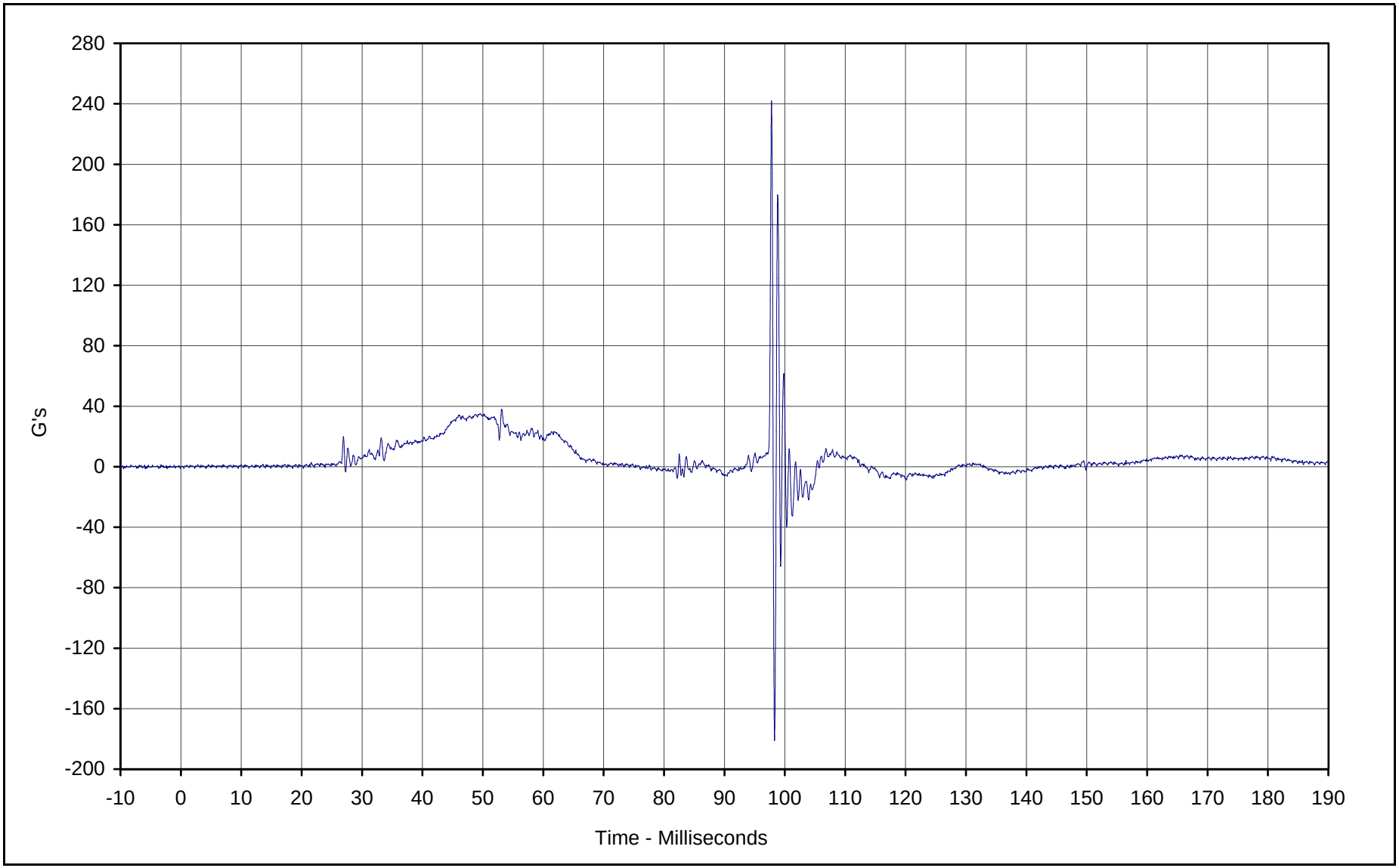
Curve Description:	Pass. Upper Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	250.4	at	97.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-142.5	at	98.3 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-017				

KARCO Engineering



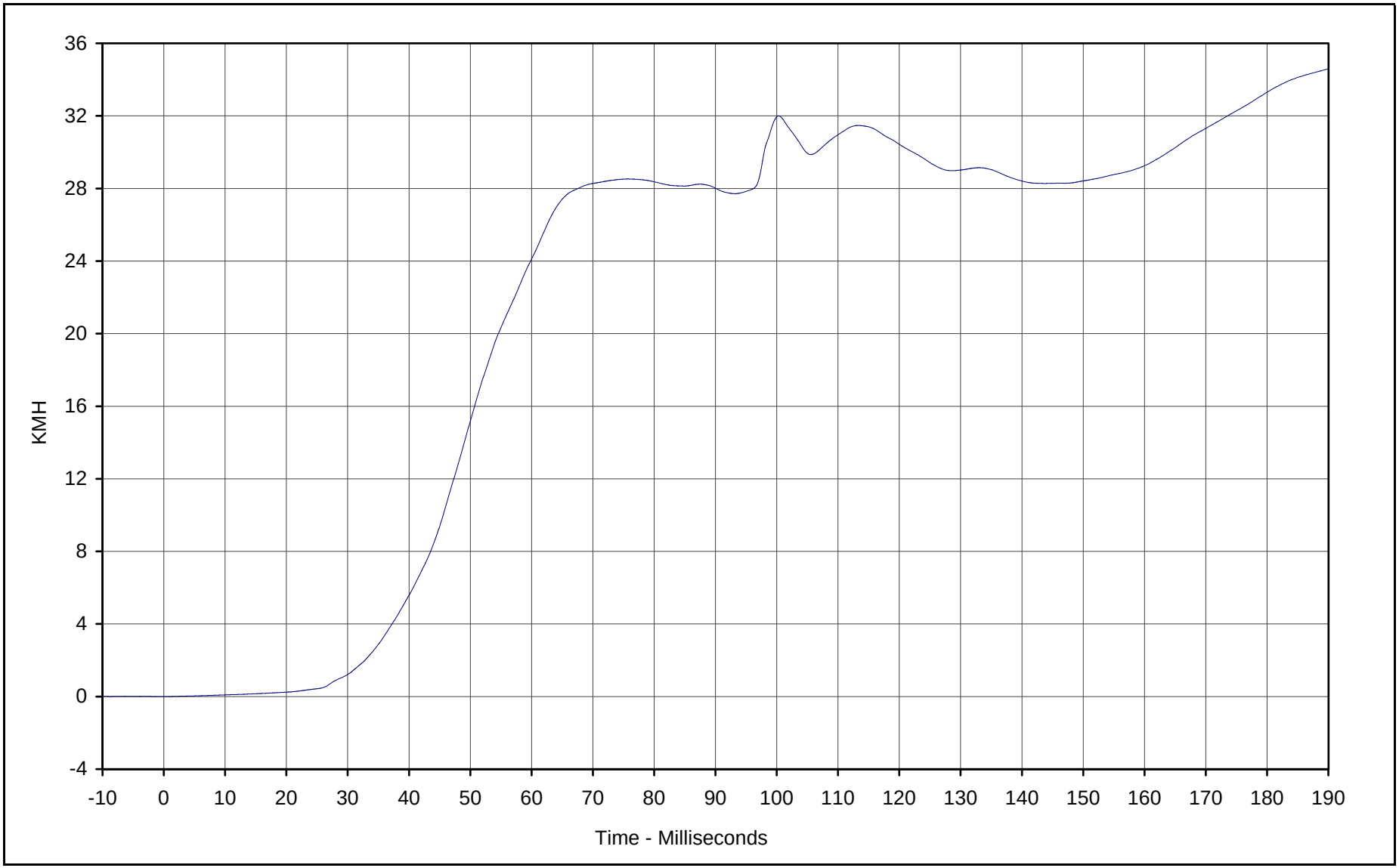
Curve Description:	Pass. Upper Rib Primary Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	33.3	at	189.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.0 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-017				

KARCO Engineering



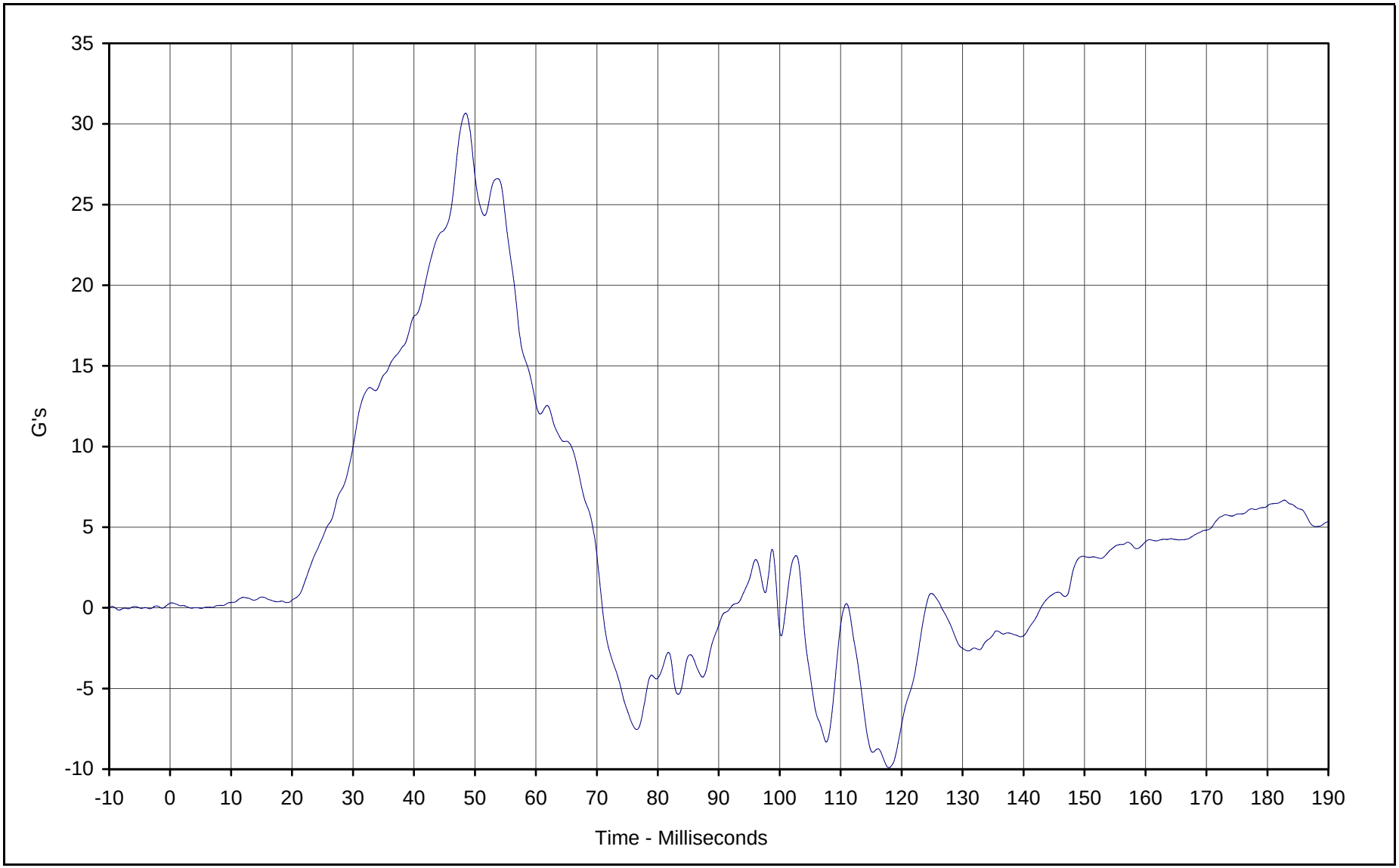
Curve Description:	Pass. Lower Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	241.8	at	97.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-180.8	at	98.3 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-018				

KARCO Engineering



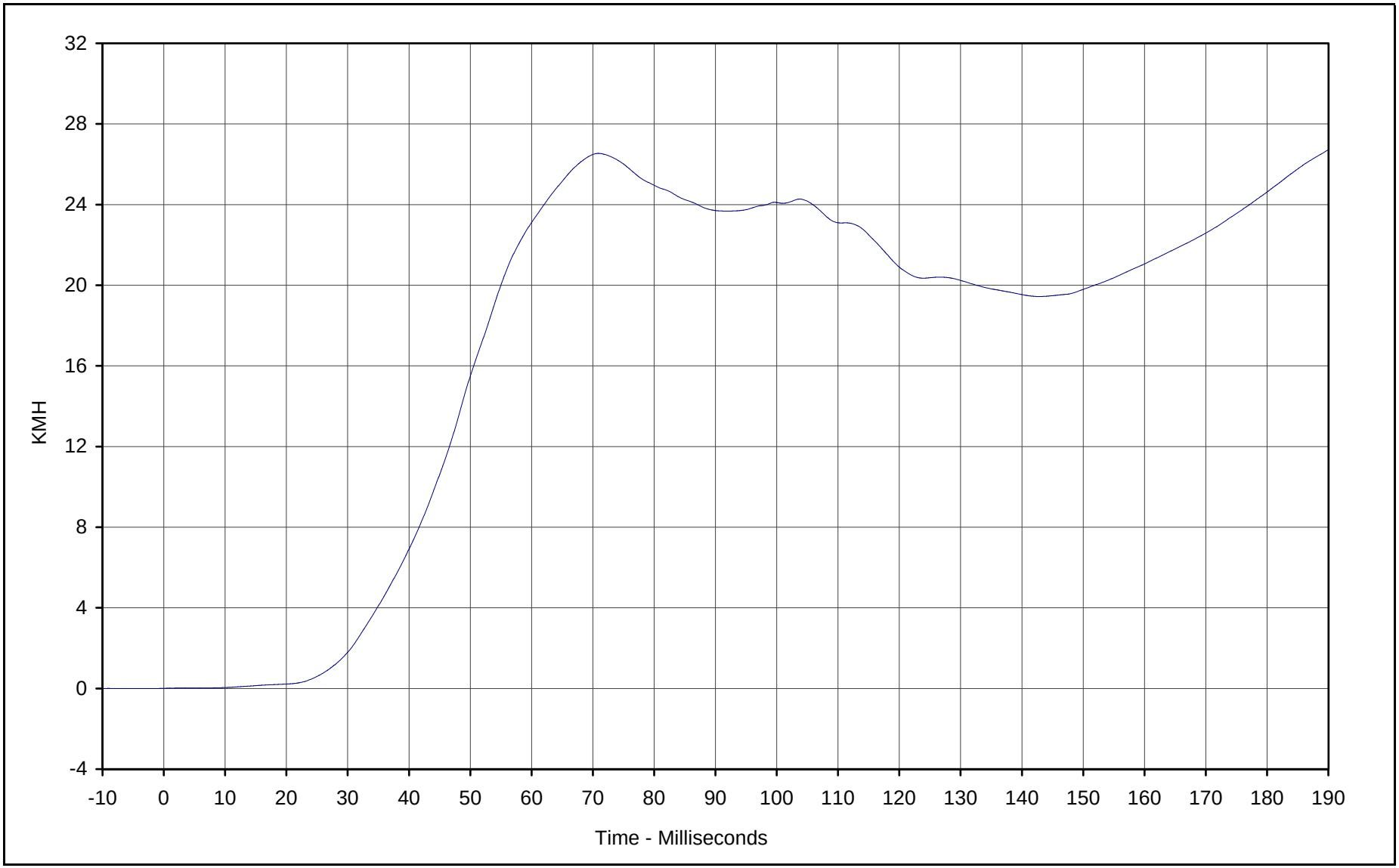
Curve Description:	Pass. Lower Rib Primary Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	34.6	at	189.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.3 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-018				

KARCO Engineering



Curve Description:	Pass. Lower Spine Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	30.7	at	48.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-9.9	at	117.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	FIL-019				

KARCO Engineering



Curve Description: Pass. Lower Spine Primary Y Velocity

Maximum Value: 26.7 at 189.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

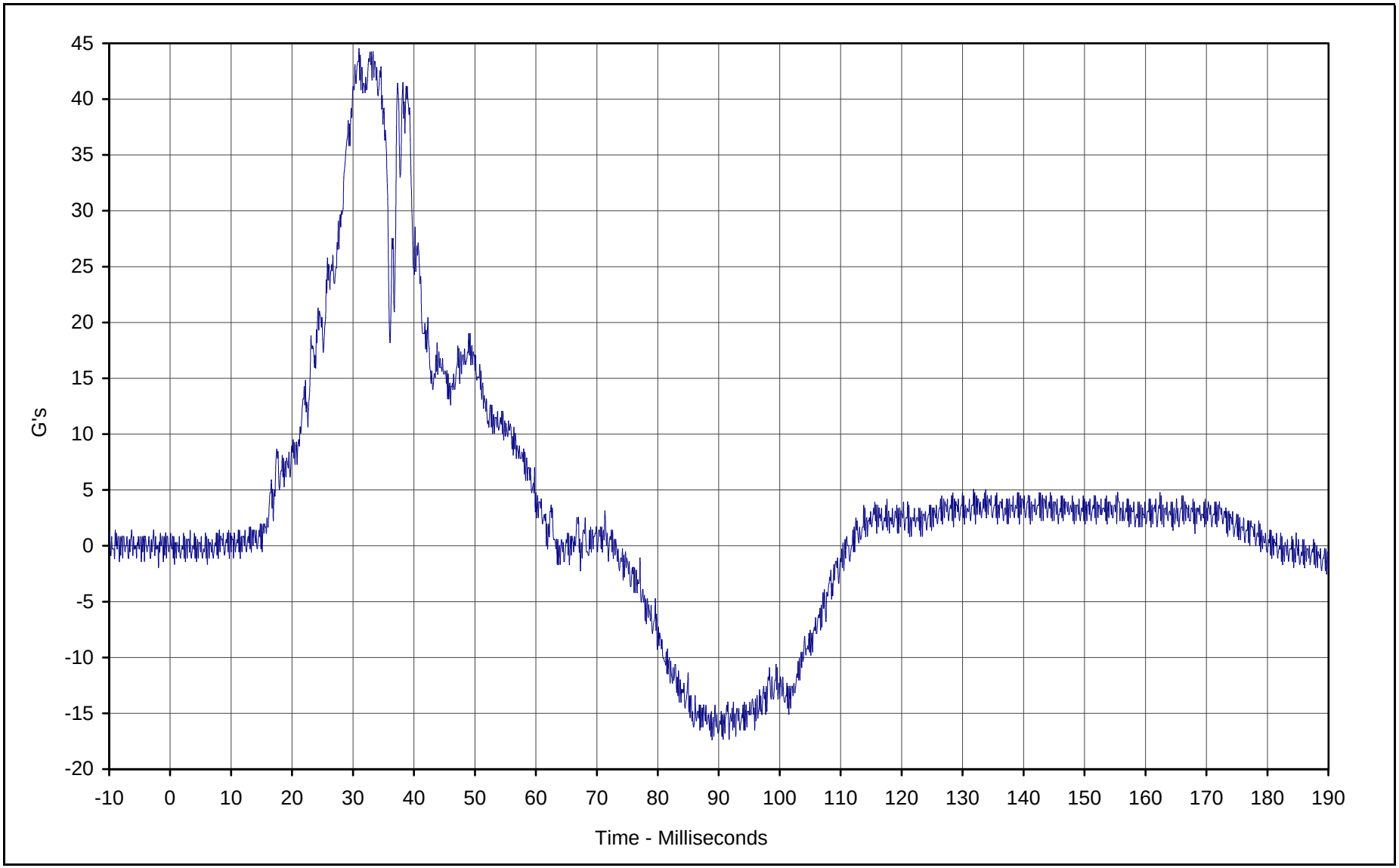
Date of Test: 11/30/00

Curve Number: IN1-019

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

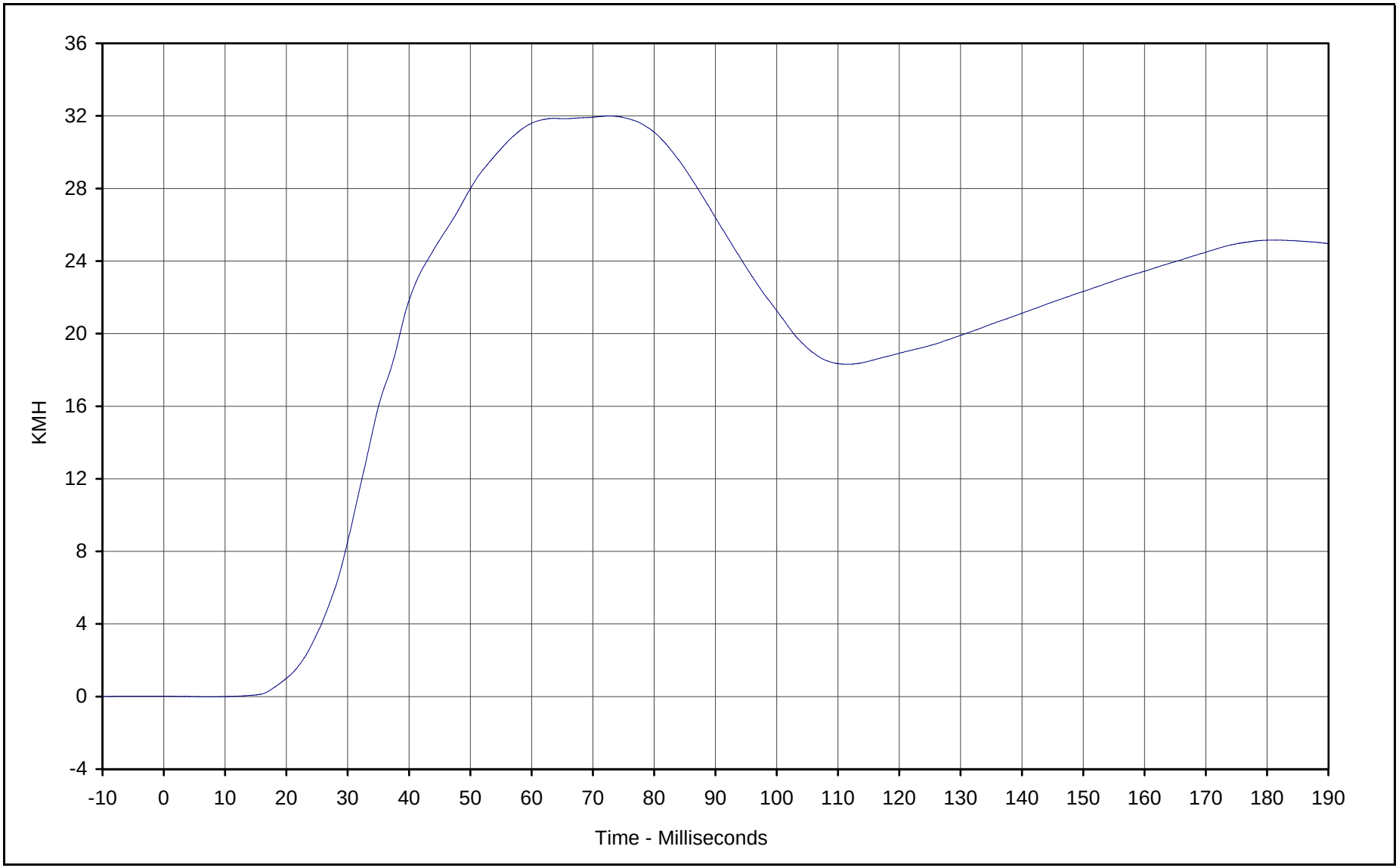
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



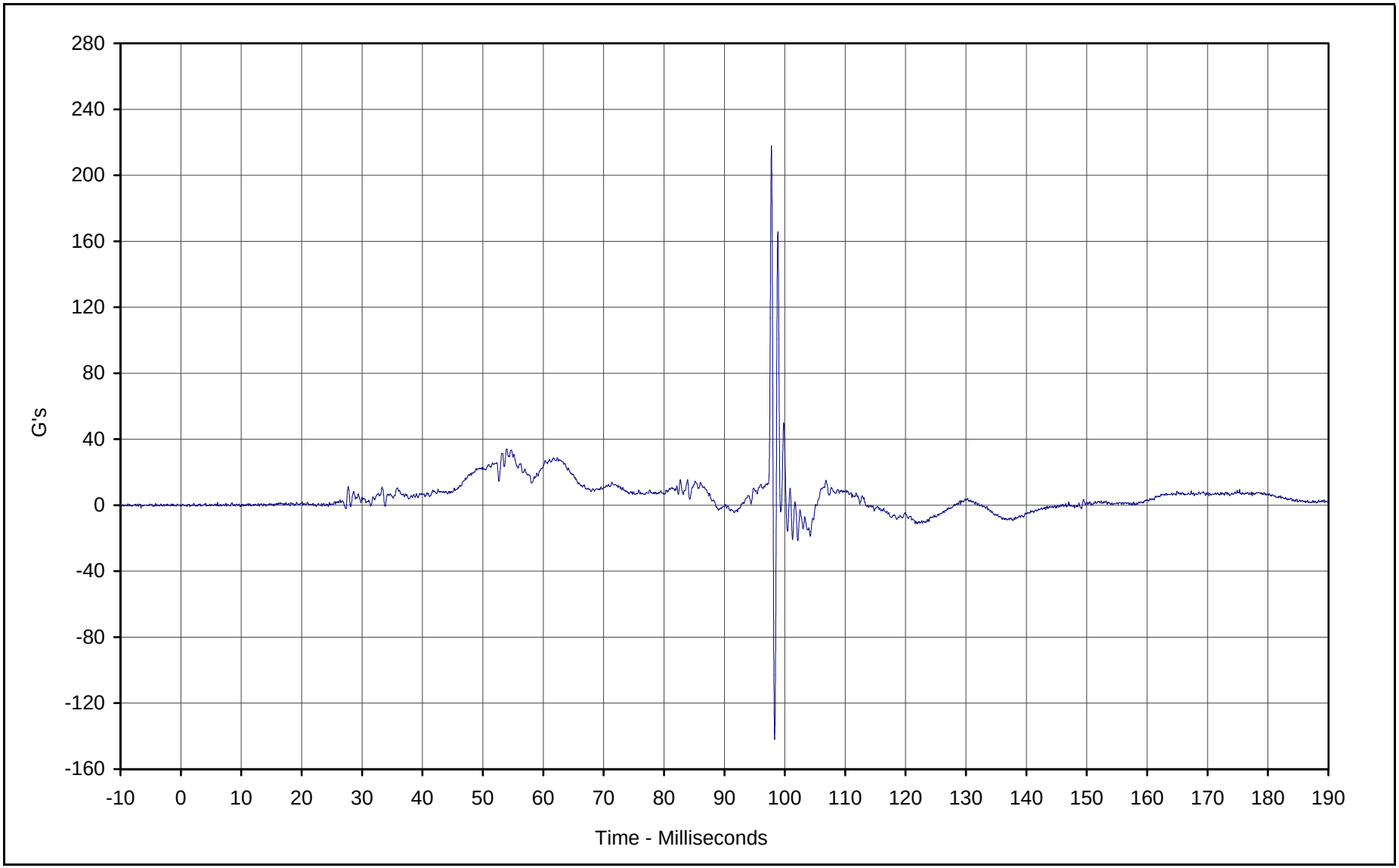
Curve Description:	Pass. Pelvis Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	44.5	at	31.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-17.4	at	88.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-020				

KARCO Engineering



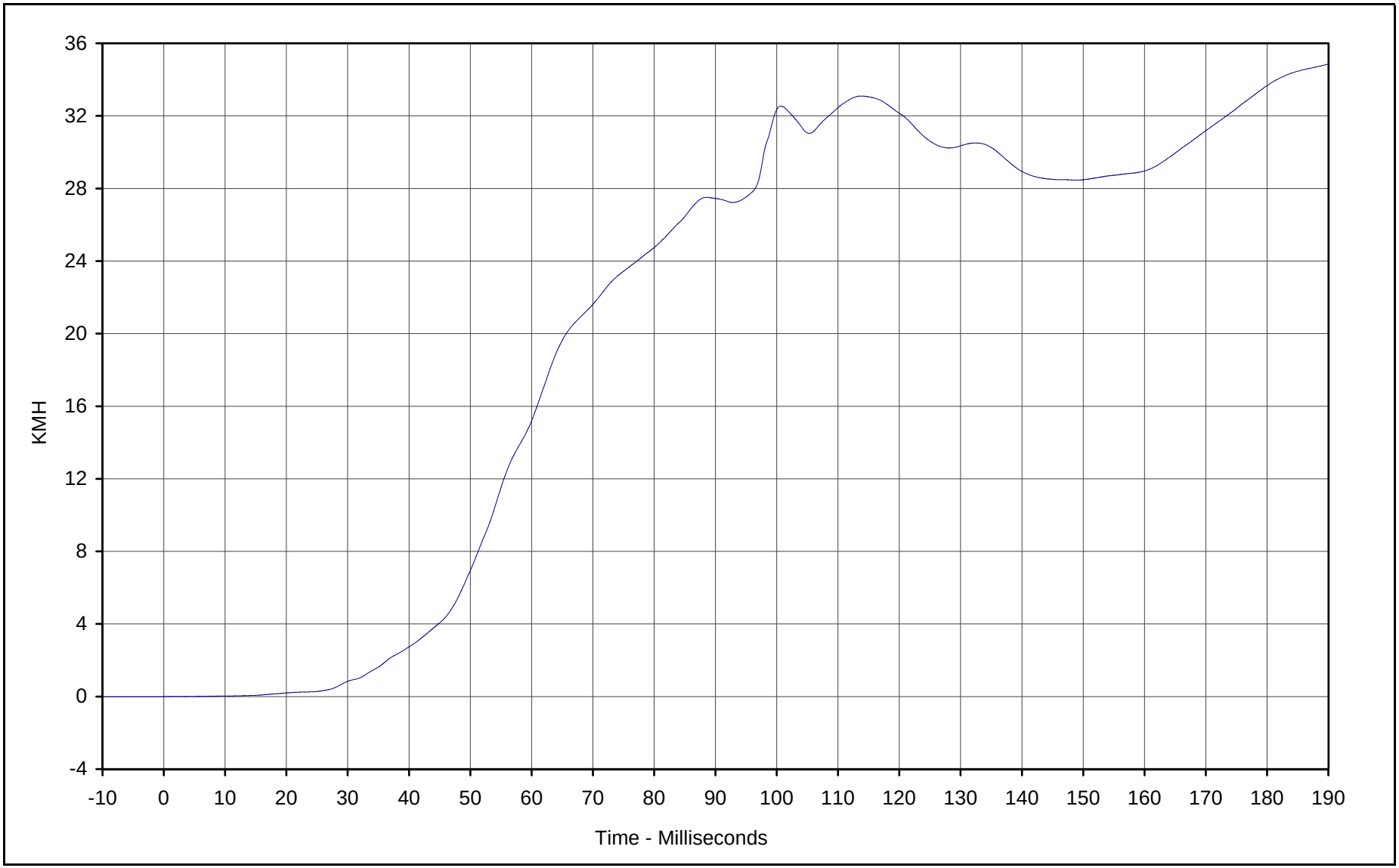
Curve Description:	Pass. Pelvis Primary Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	32.0	at	72.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	7.5 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-020				

KARCO Engineering



Curve Description:	Pass. Upper Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	217.8	at	97.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-141.6	at	98.3 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-021				

KARC Engineering



Curve Description: Pass. Upper Rib Redundant Y Velocity

Maximum Value: 34.8 at 189.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

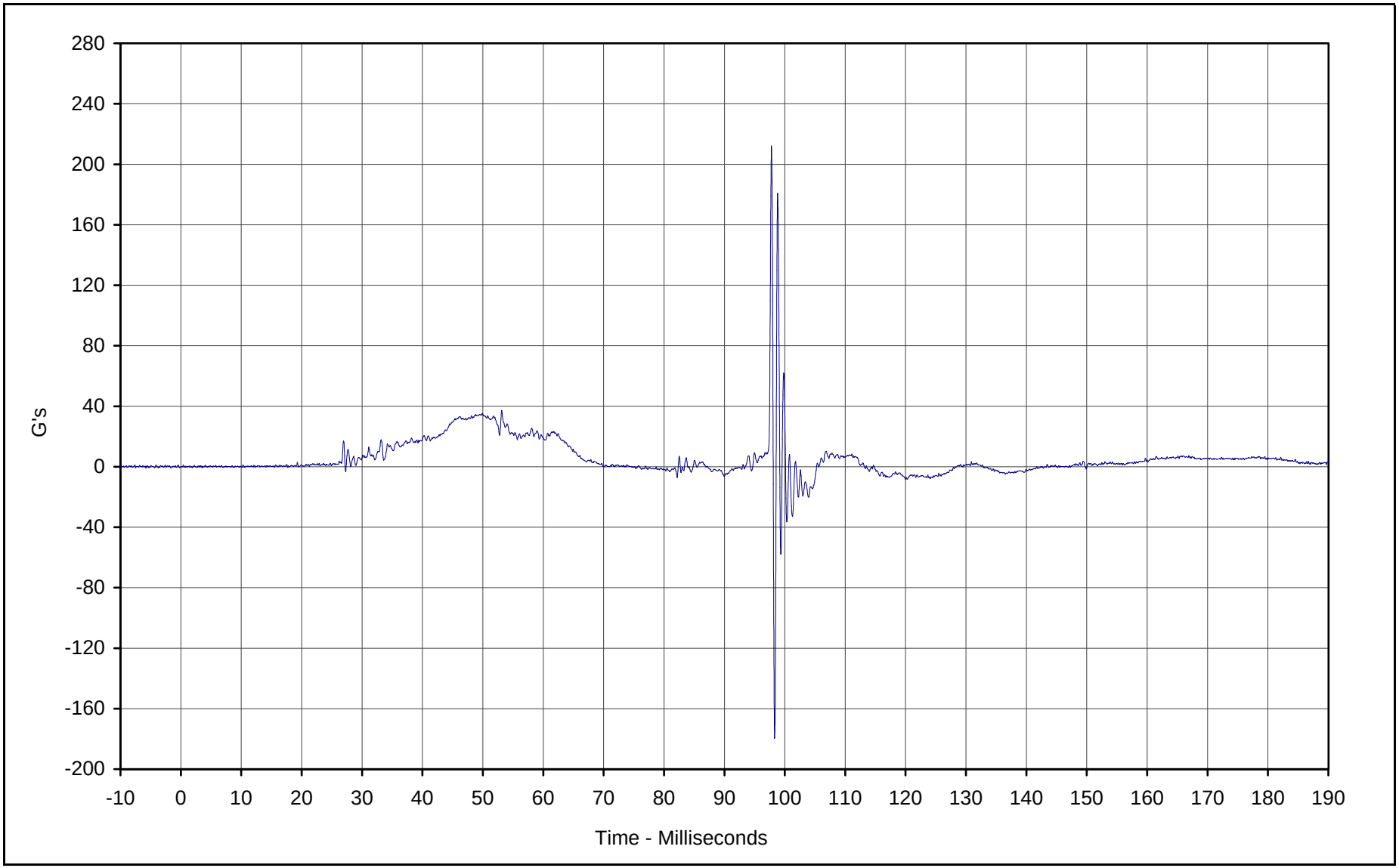
Date of Test: 11/30/00

Curve Number: IN1-021

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

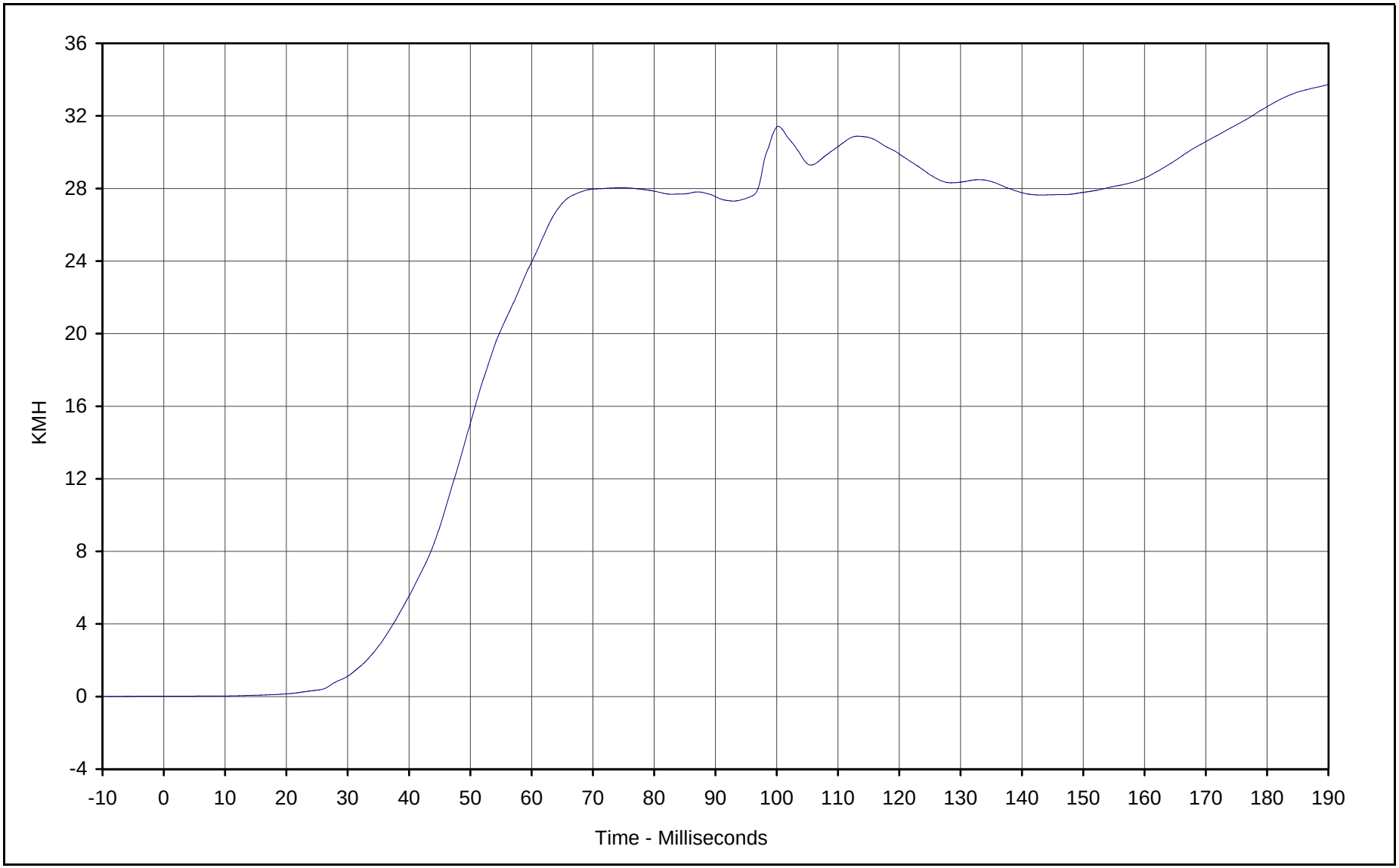
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Pass. Lower Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	212.1	at	97.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-179.0	at	98.3 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-022				

KARCO Engineering



Curve Description: Pass. Lower Rib Redundant Y Velocity

Maximum Value: 33.7 at 189.9 Milliseconds

Minimum Value: 0.0 at 2.7 Milliseconds

SAE Filter Class: 180

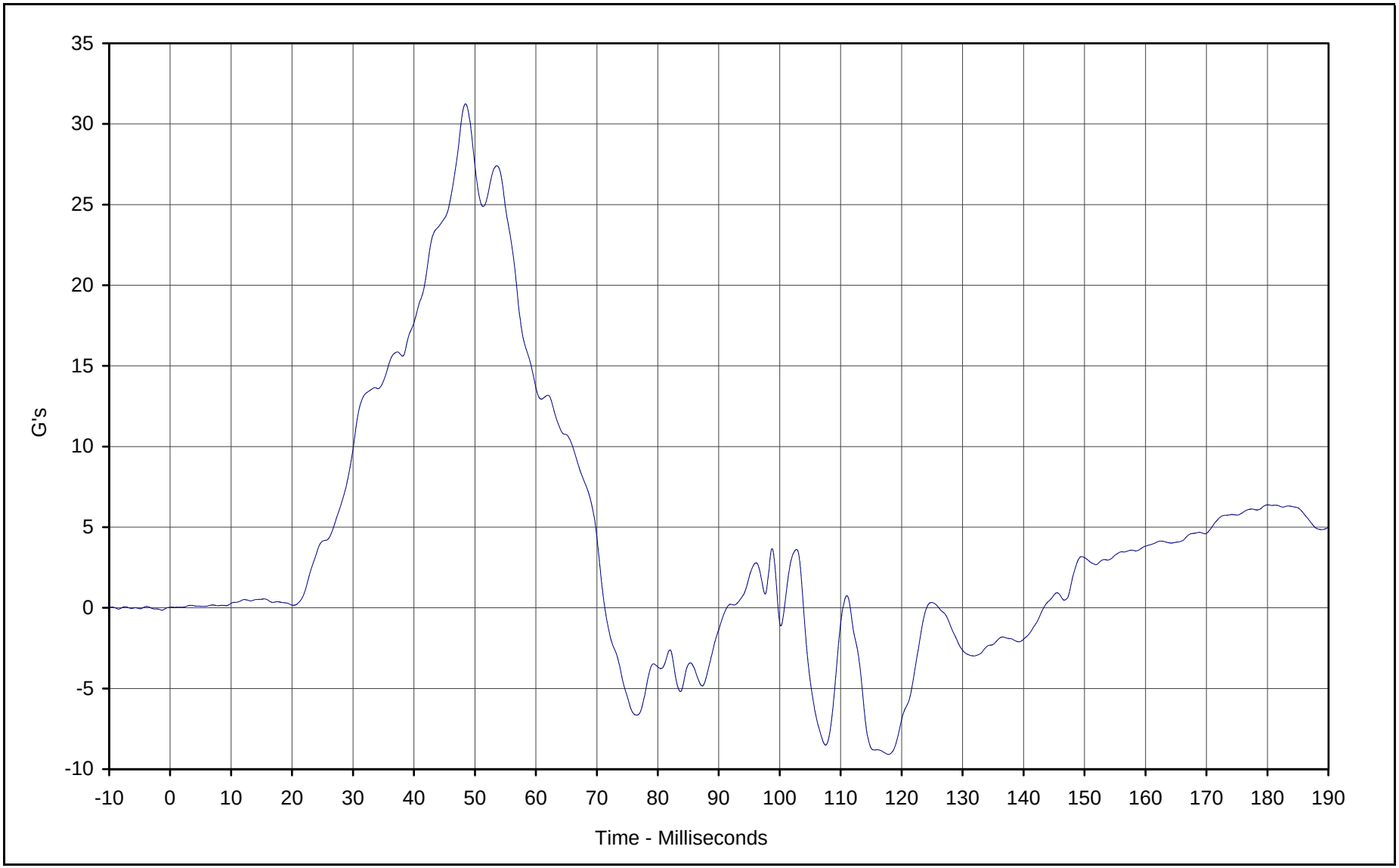
Date of Test: 11/30/00

Curve Number: IN1-022

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

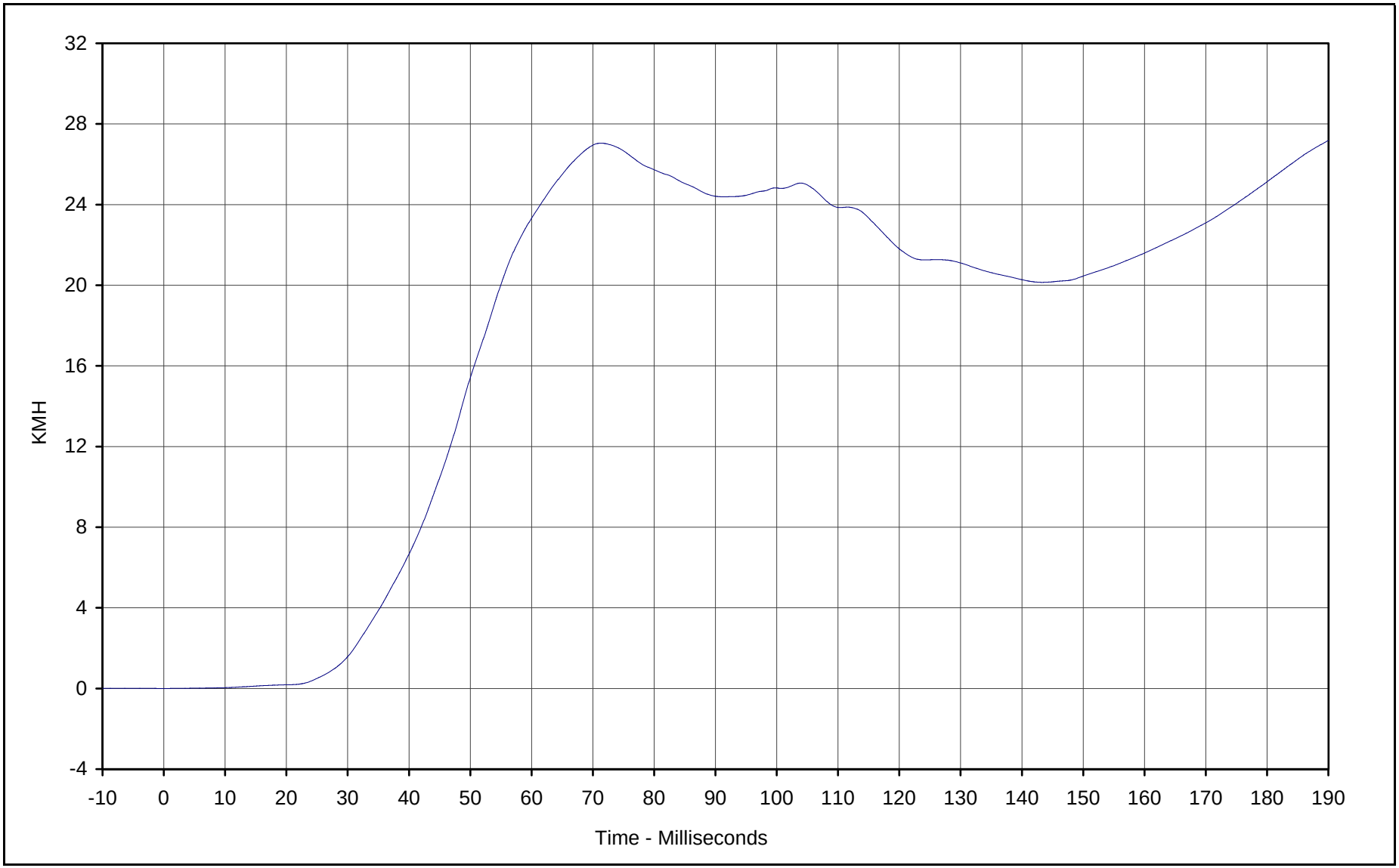
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Pass. Lower Spine Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	31.2	at	48.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-9.1	at	117.8 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	FIL-023				

KARCO Engineering



Curve Description: Pass. Lower Spine Redundant Y Velocity

Maximum Value: 27.2 at 189.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

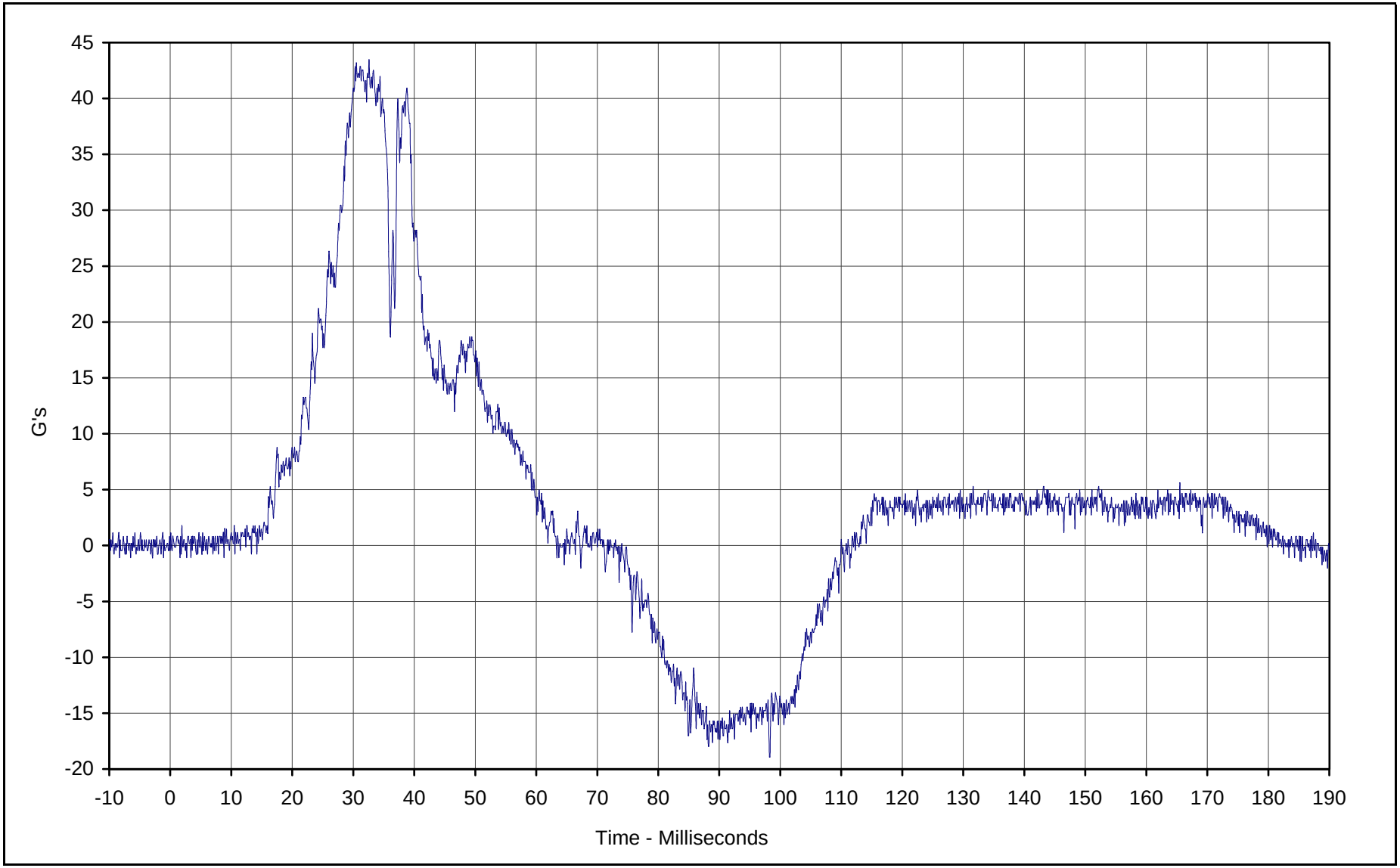
Date of Test: 11/30/00

Curve Number: IN1-023

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

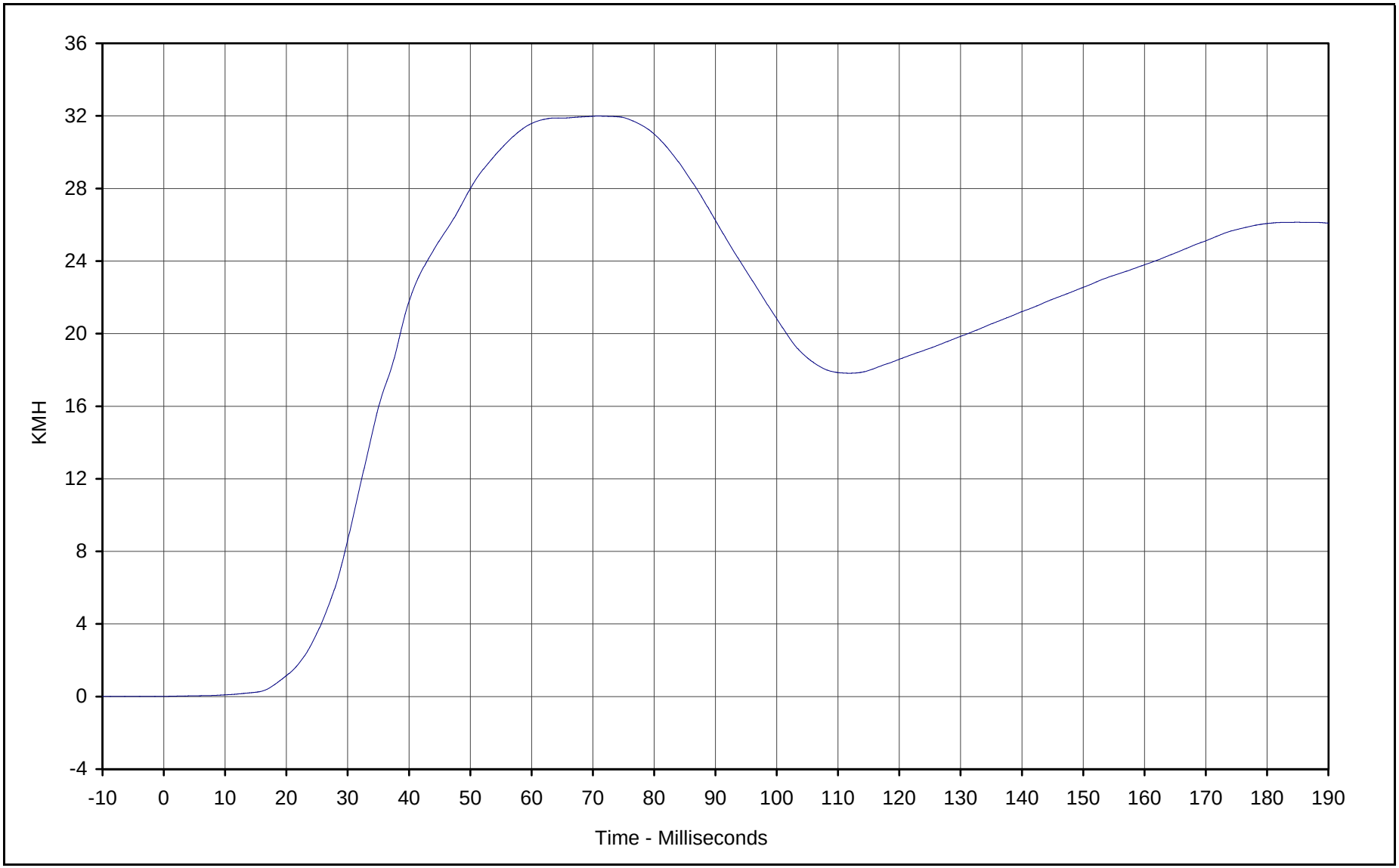
Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



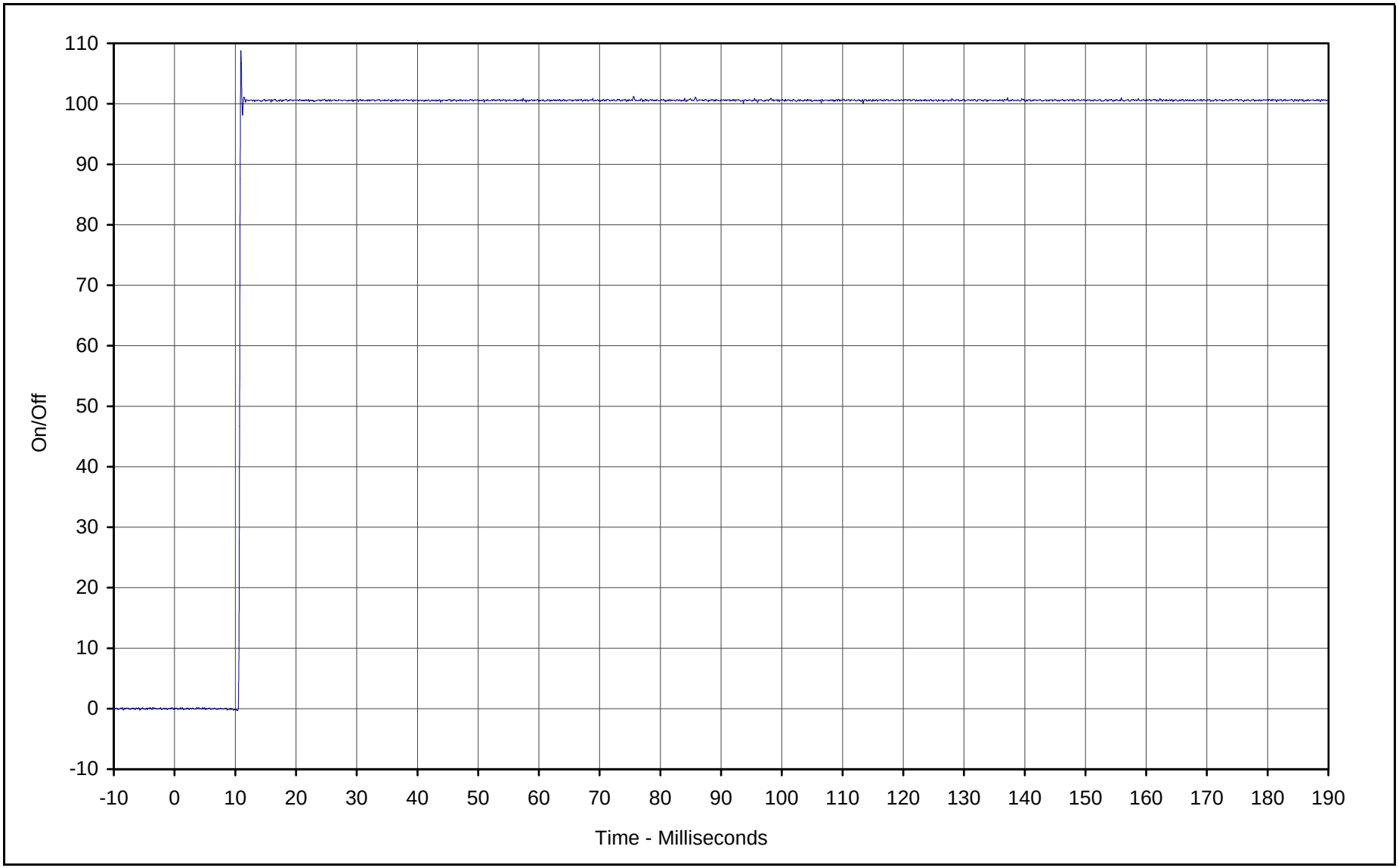
Curve Description:	Pass. Pelvis Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	43.5	at	32.6 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-18.9	at	98.2 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-024				

KARC Engineering



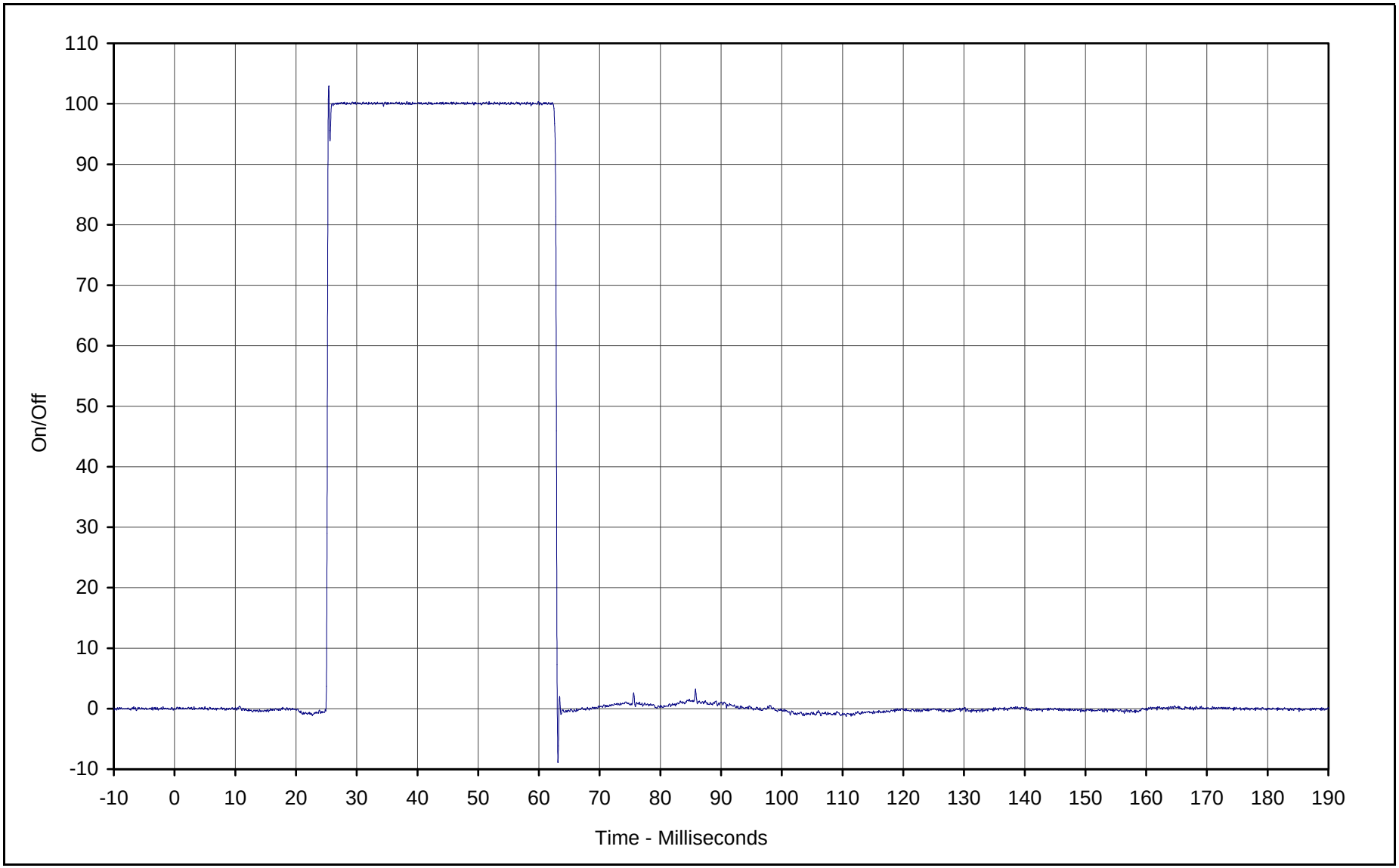
Curve Description:	Pass. Pelvis Redundant Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	32.0	at	70.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.0 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-024				

KARCO Engineering



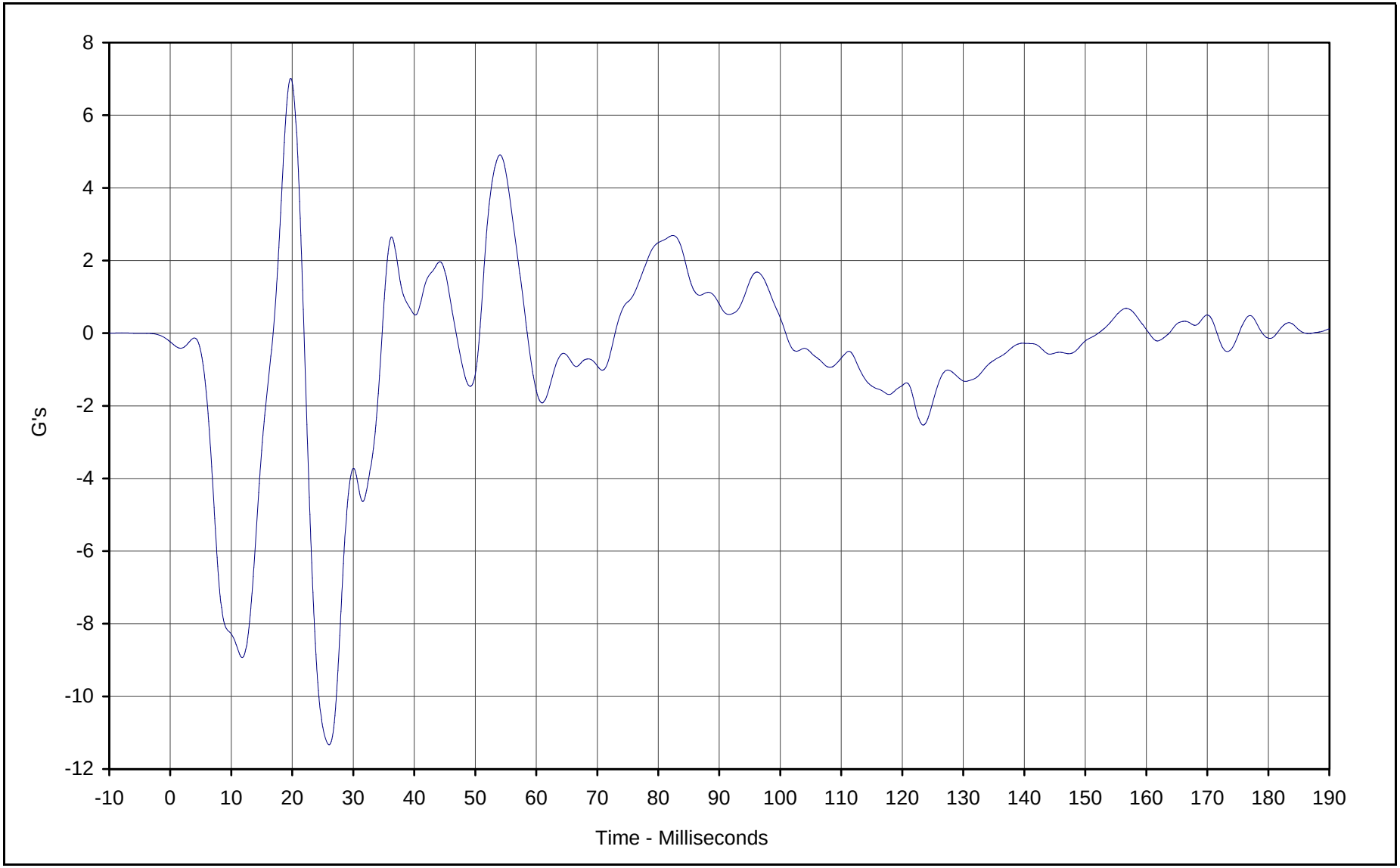
Curve Description:	Pass. Thorax Contact			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	108.5	at	10.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Crossing Point:	50%	at	10.8 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-025				

KARCO Engineering



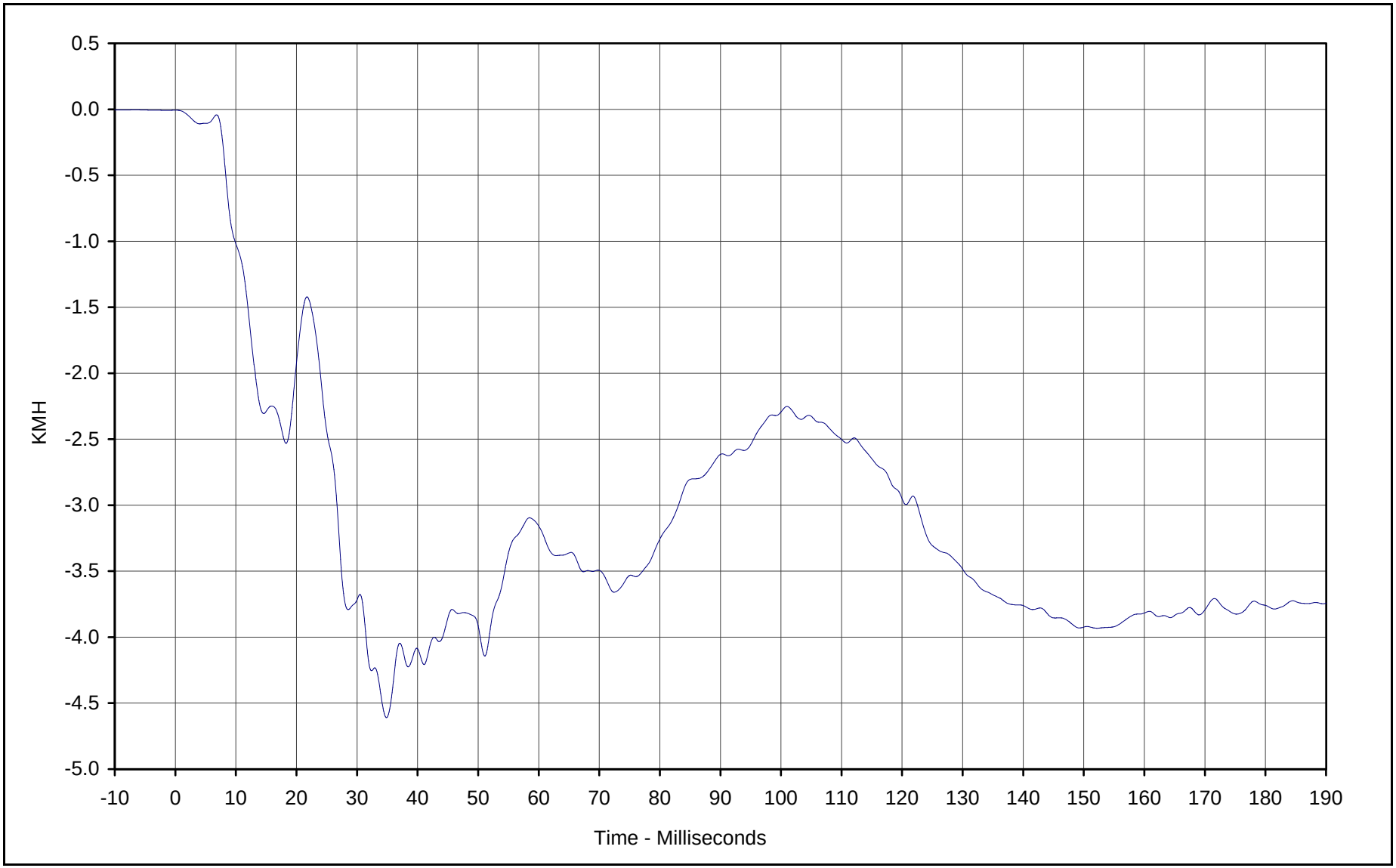
Curve Description:	Pass. Pelvis Contact			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	102.9	at	25.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Crossing Point:	50%	at	25.2 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-026				

KARCO Engineering



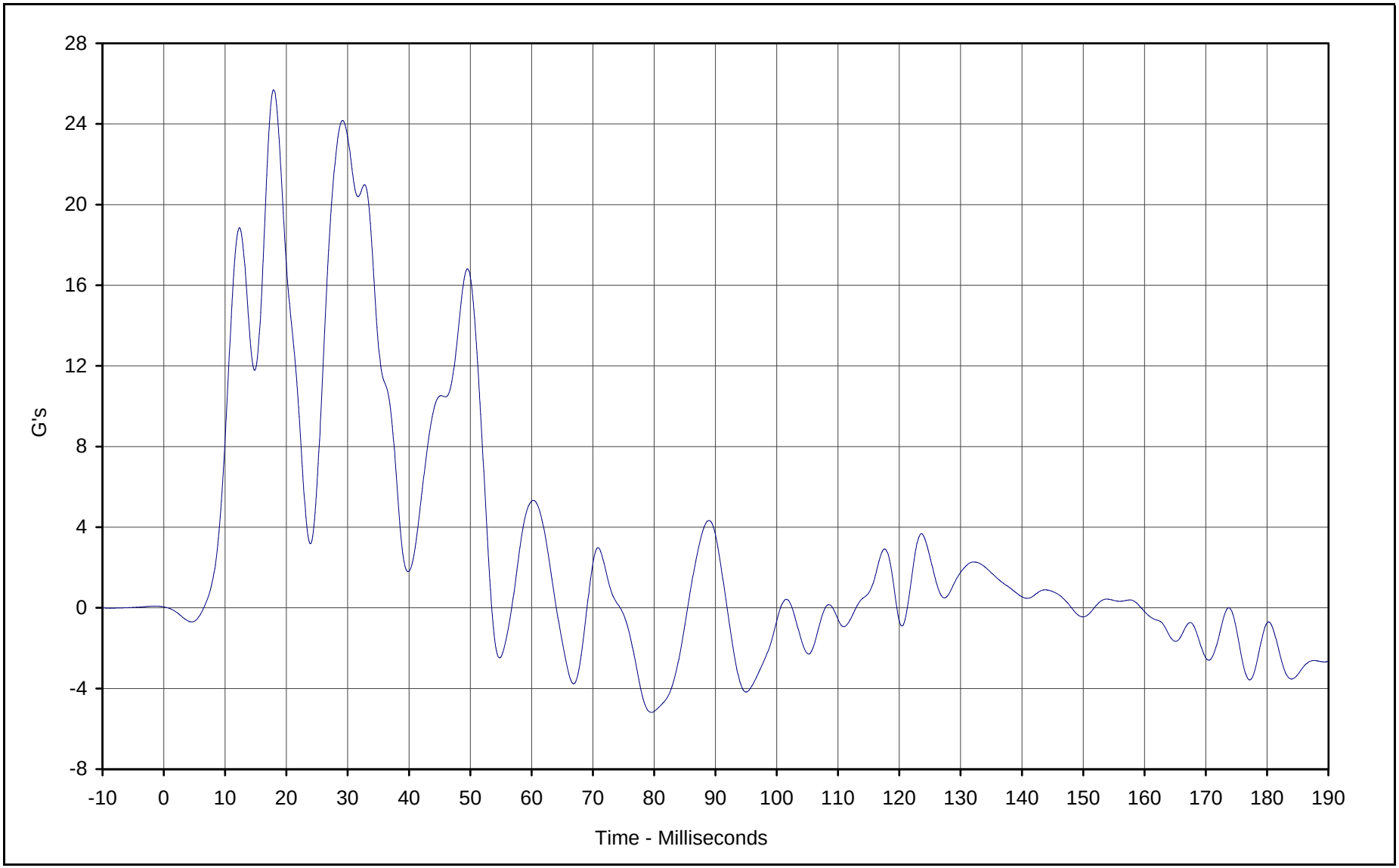
Curve Description:	Right Sill at Front Seat X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	7.0	at	19.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-11.3	at	26.0 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-027				

KARCO Engineering



Curve Description:	Right Sill at Front Seat X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	0.0	at	0.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-4.6	at	34.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-027				

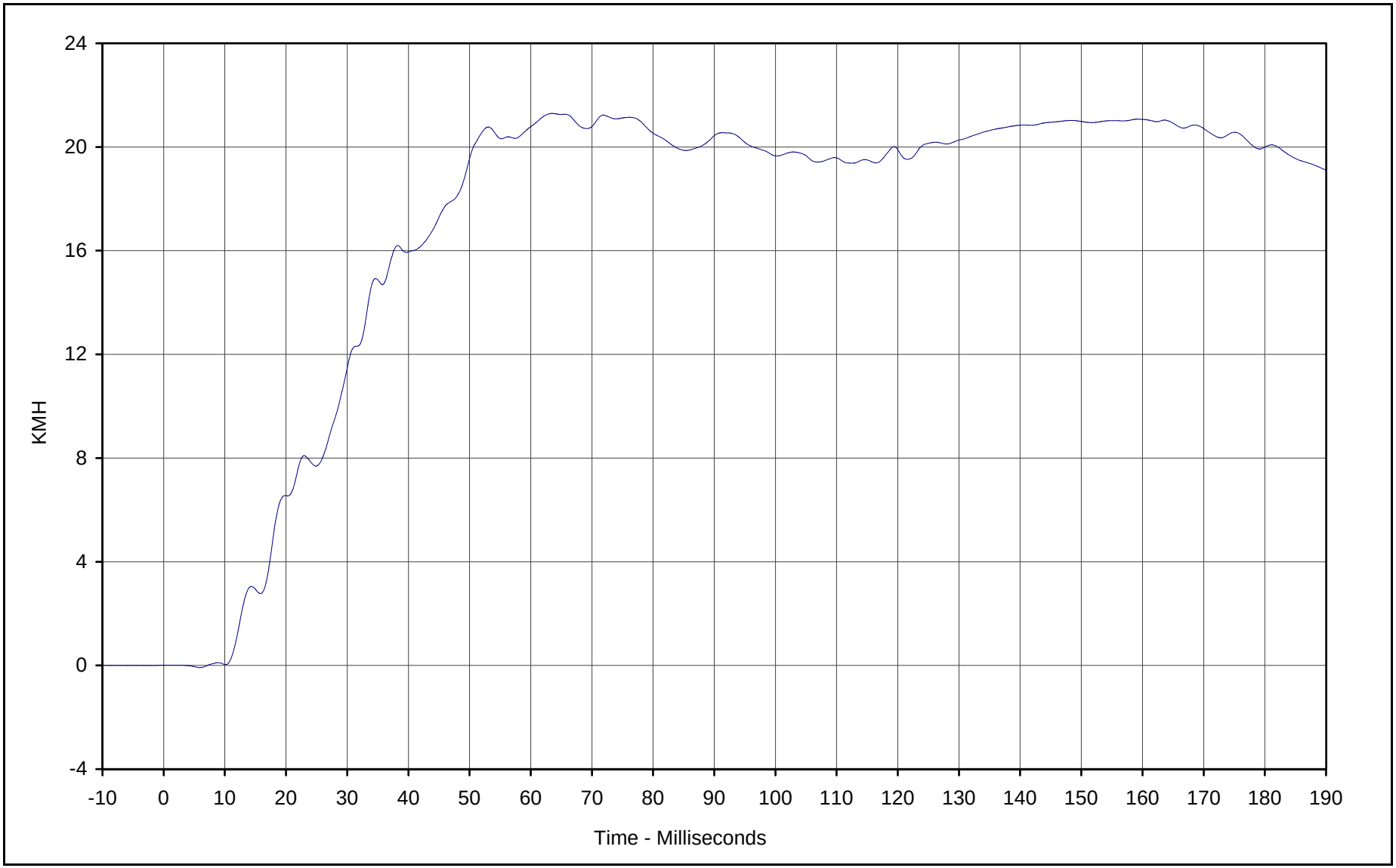
KARC Engineering



Curve Description:	Right Sill at Front Seat Y				
Maximum Value:	25.7	at	17.9	Milliseconds	
Minimum Value:	-5.2	at	79.5	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-028				

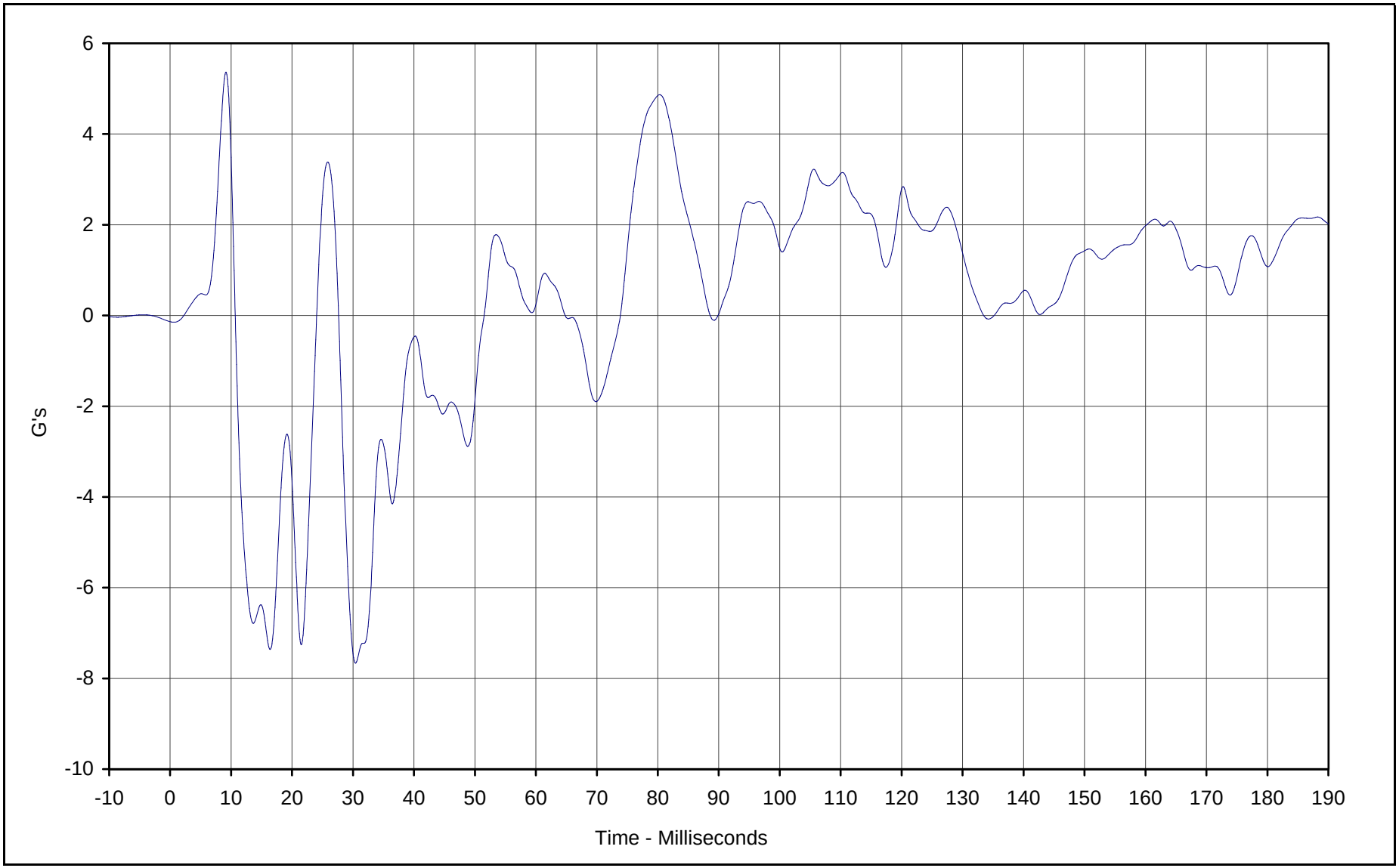
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



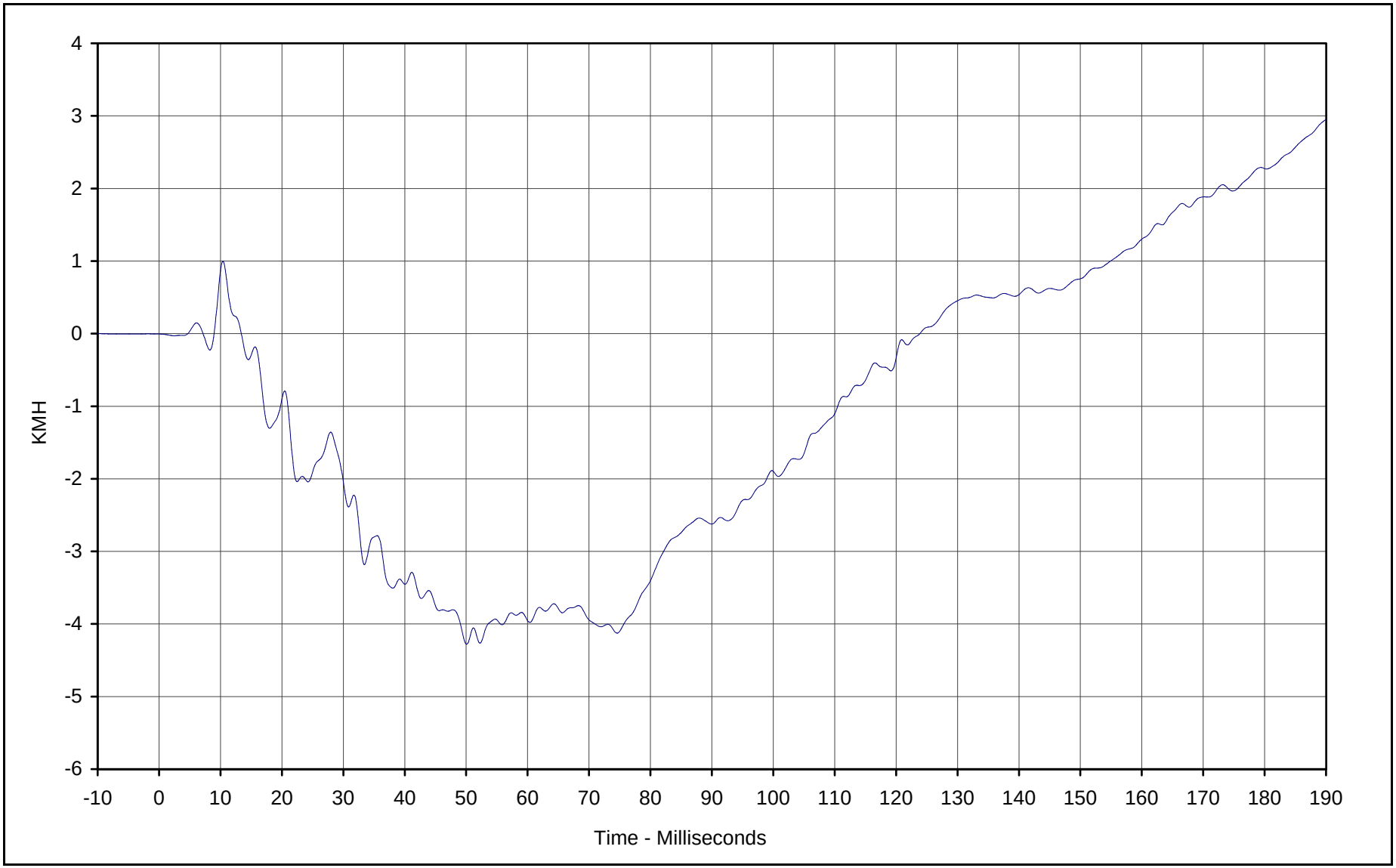
Curve Description:	Right Sill at Front Seat Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	21.3	at	63.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-0.1	at	5.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-028				

KARC Engineering



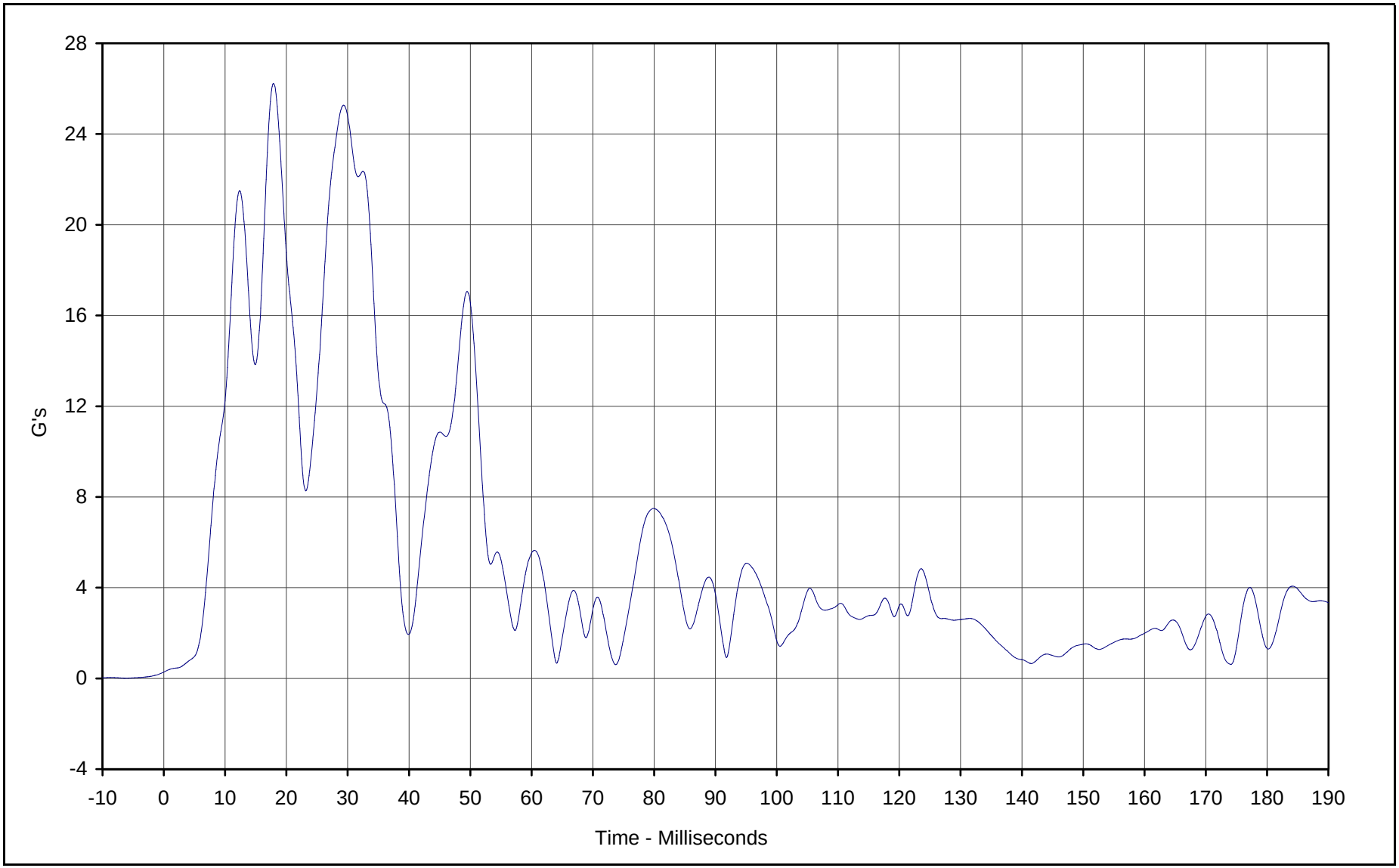
Curve Description:	Right Sill at Front Seat Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	5.4	at	9.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.7	at	30.4 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-029				

KARCO Engineering



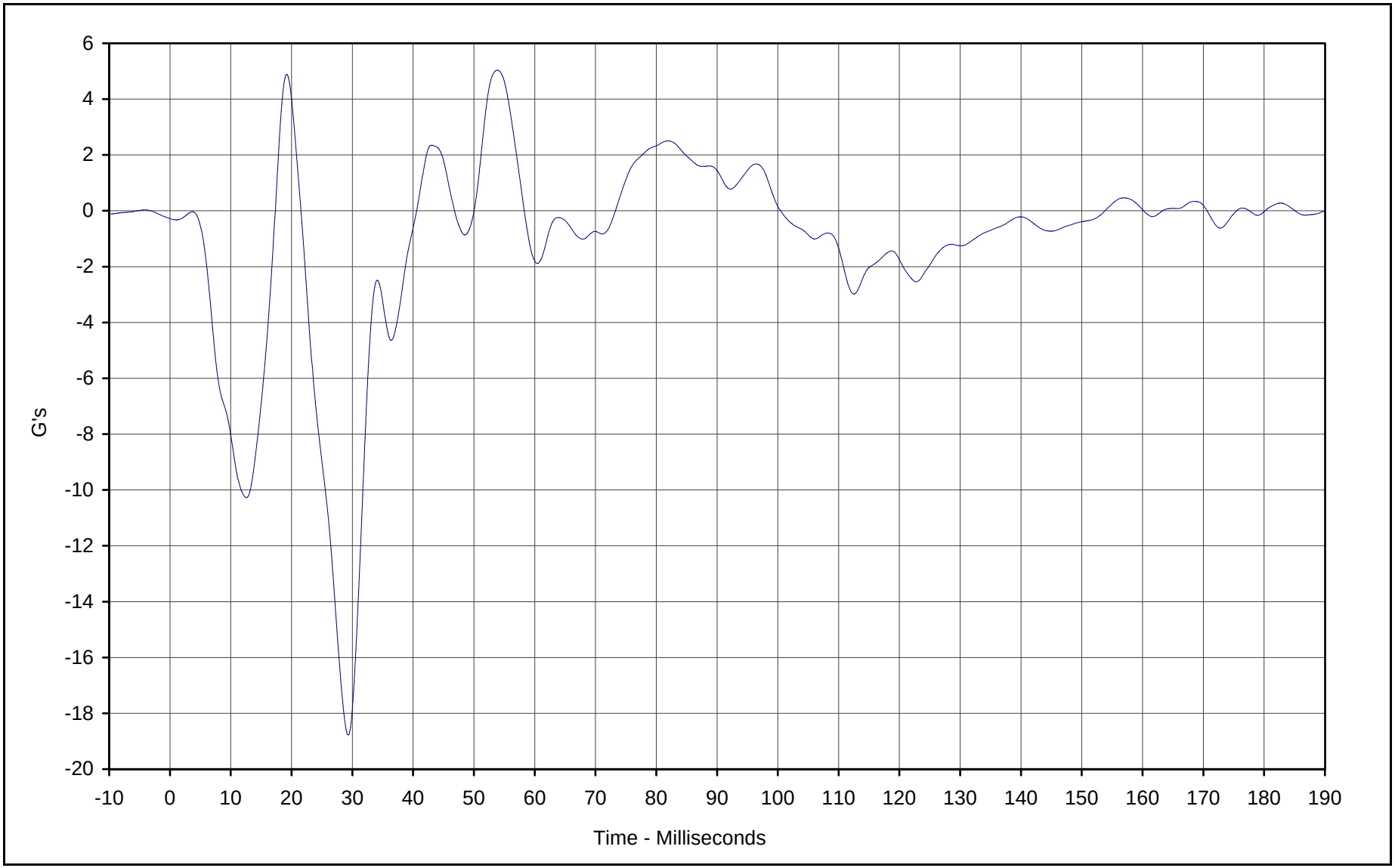
Curve Description:	Right Sill at Front Seat Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	2.9	at	189.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-4.3	at	50.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-029				

KARCO Engineering



Curve Description:	Right Sill at Front Seat Resultant			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	26.2	at	17.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.3	at	0.0 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	RES-027				

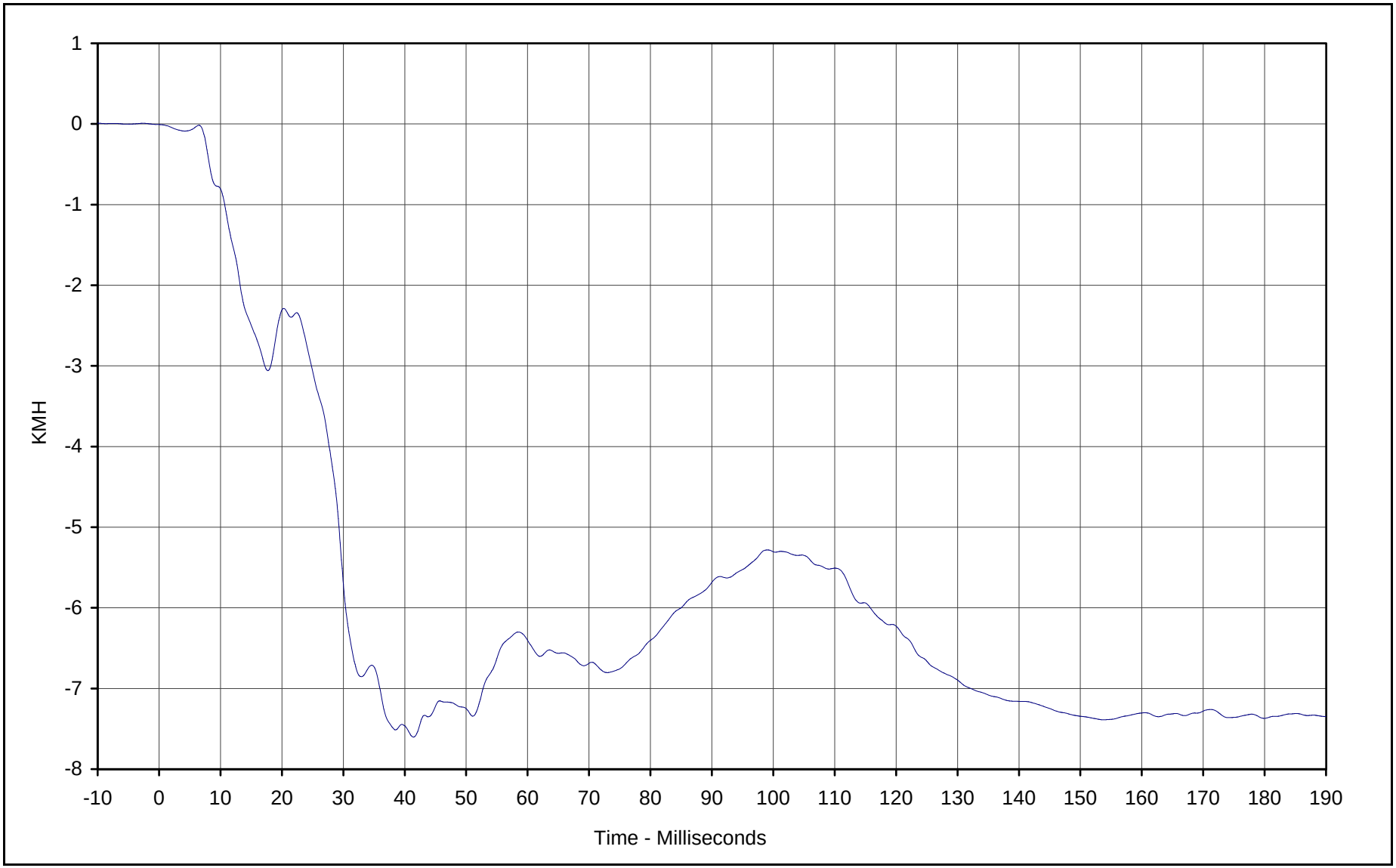
KARCO Engineering



Curve Description:	Right Sill at Rear Seat X				
Maximum Value:	5.0	at	53.9	Milliseconds	
Minimum Value:	-18.8	at	29.3	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-030				

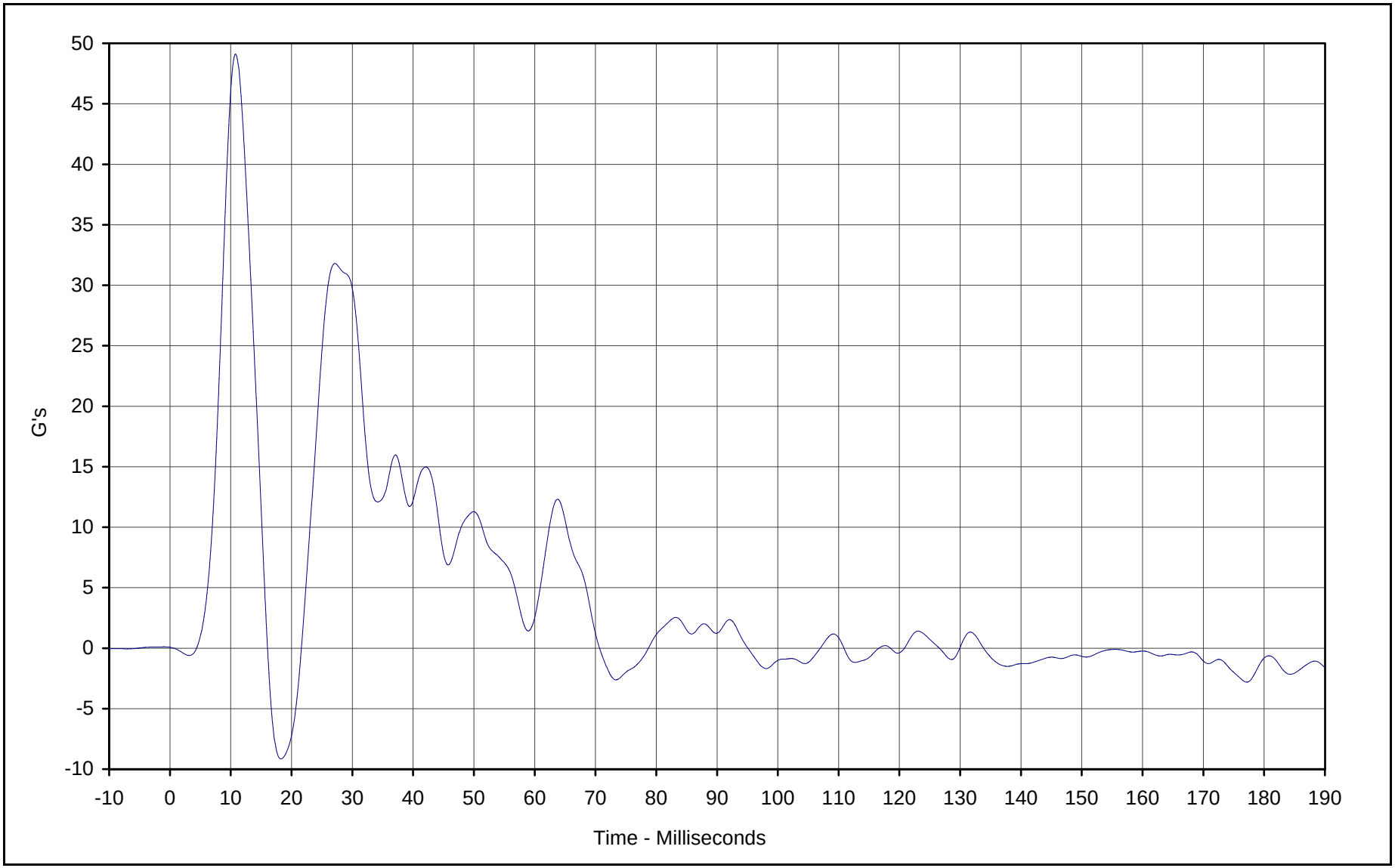
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Right Sill at Rear Seat X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	0.0	at	0.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.6	at	41.4 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-030				

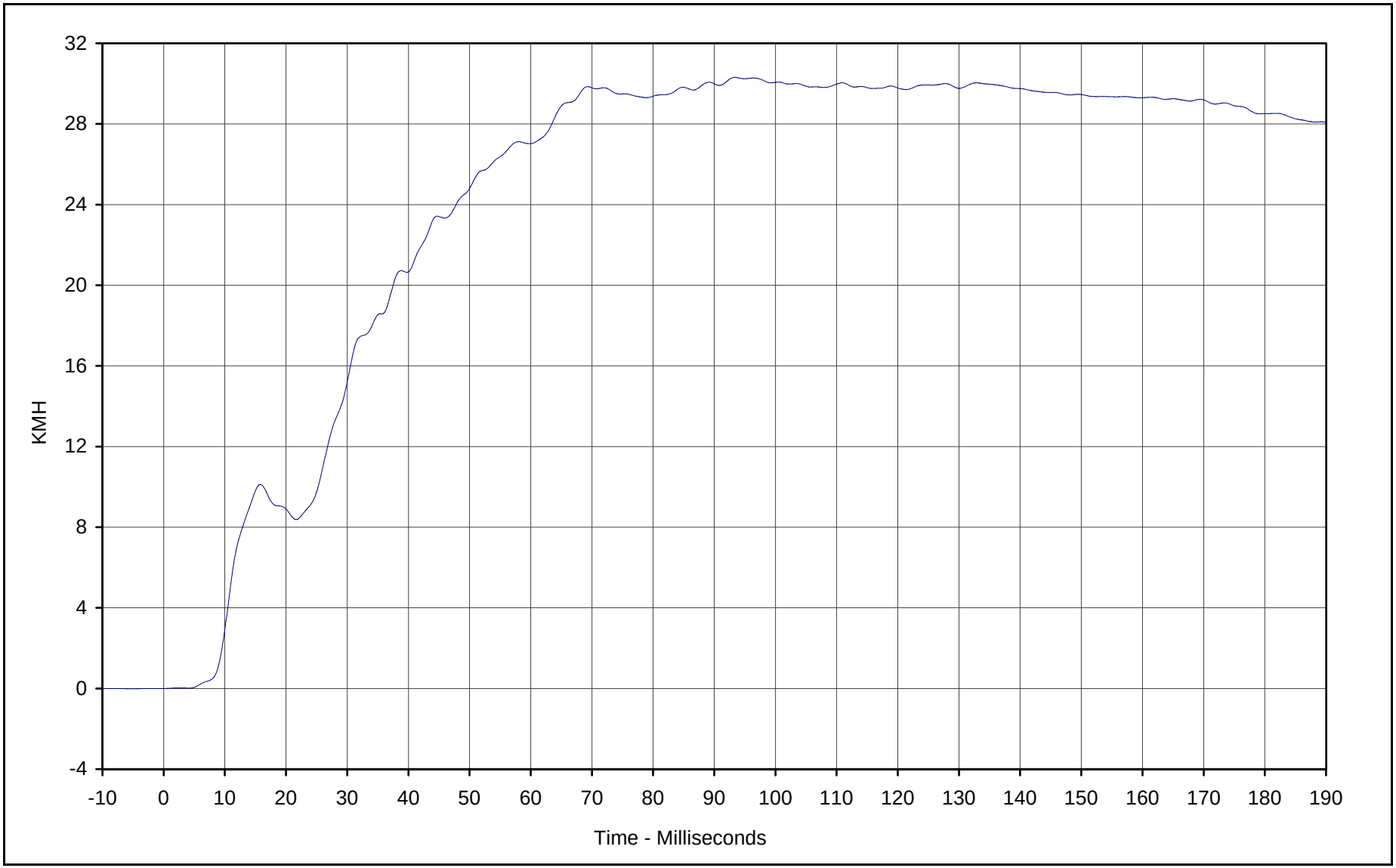
KARC Engineering



Curve Description:	Right Sill at Rear Seat Y				
Maximum Value:	49.1	at	10.8	Milliseconds	
Minimum Value:	-9.2	at	18.2	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-031				

Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

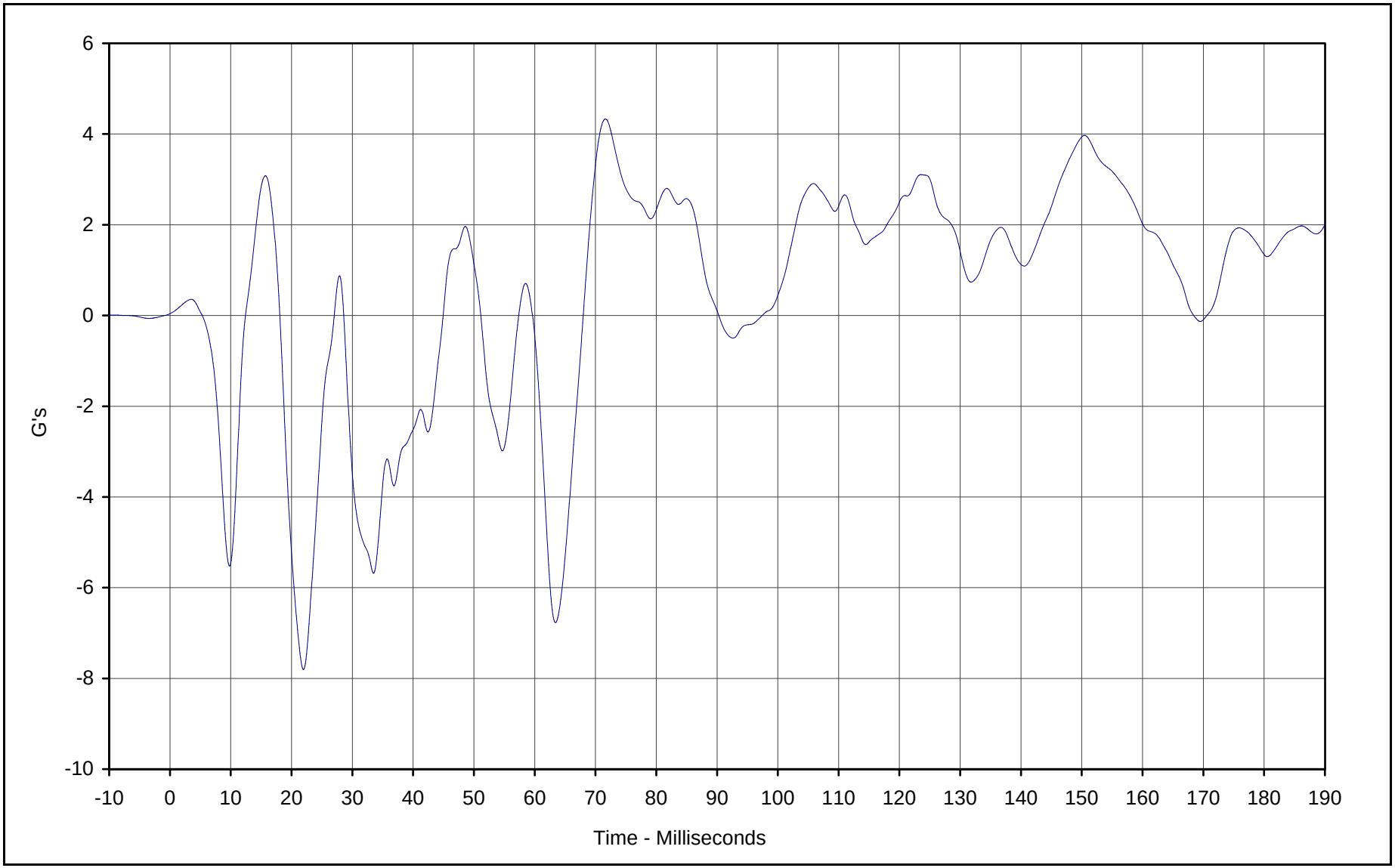
KARCO Engineering



Curve Description:	Right Sill at Rear Seat Y Velocity				
Maximum Value:	30.3	at	93.4	Milliseconds	
Minimum Value:	0.0	at	0.0	Milliseconds	
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-031				

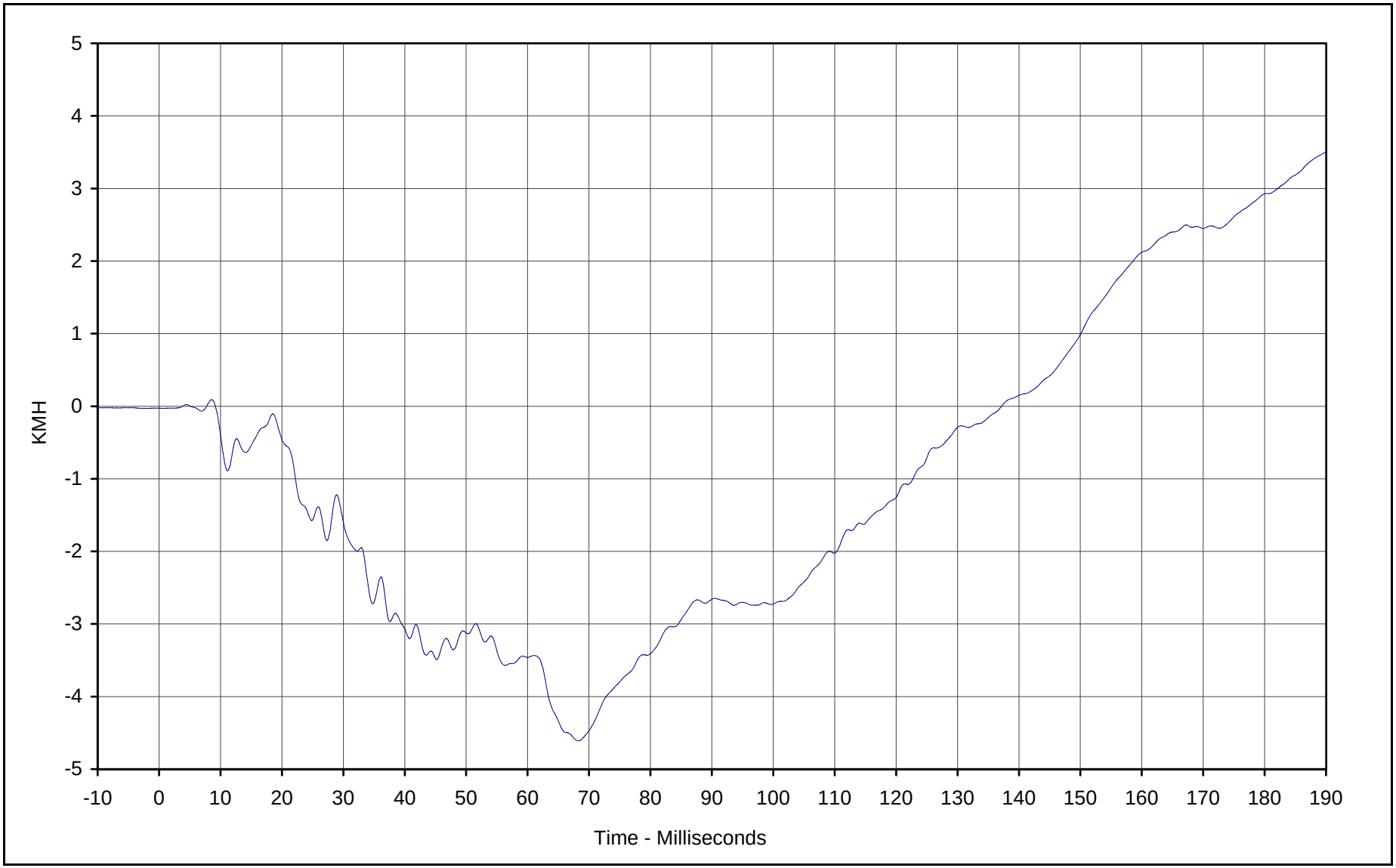
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



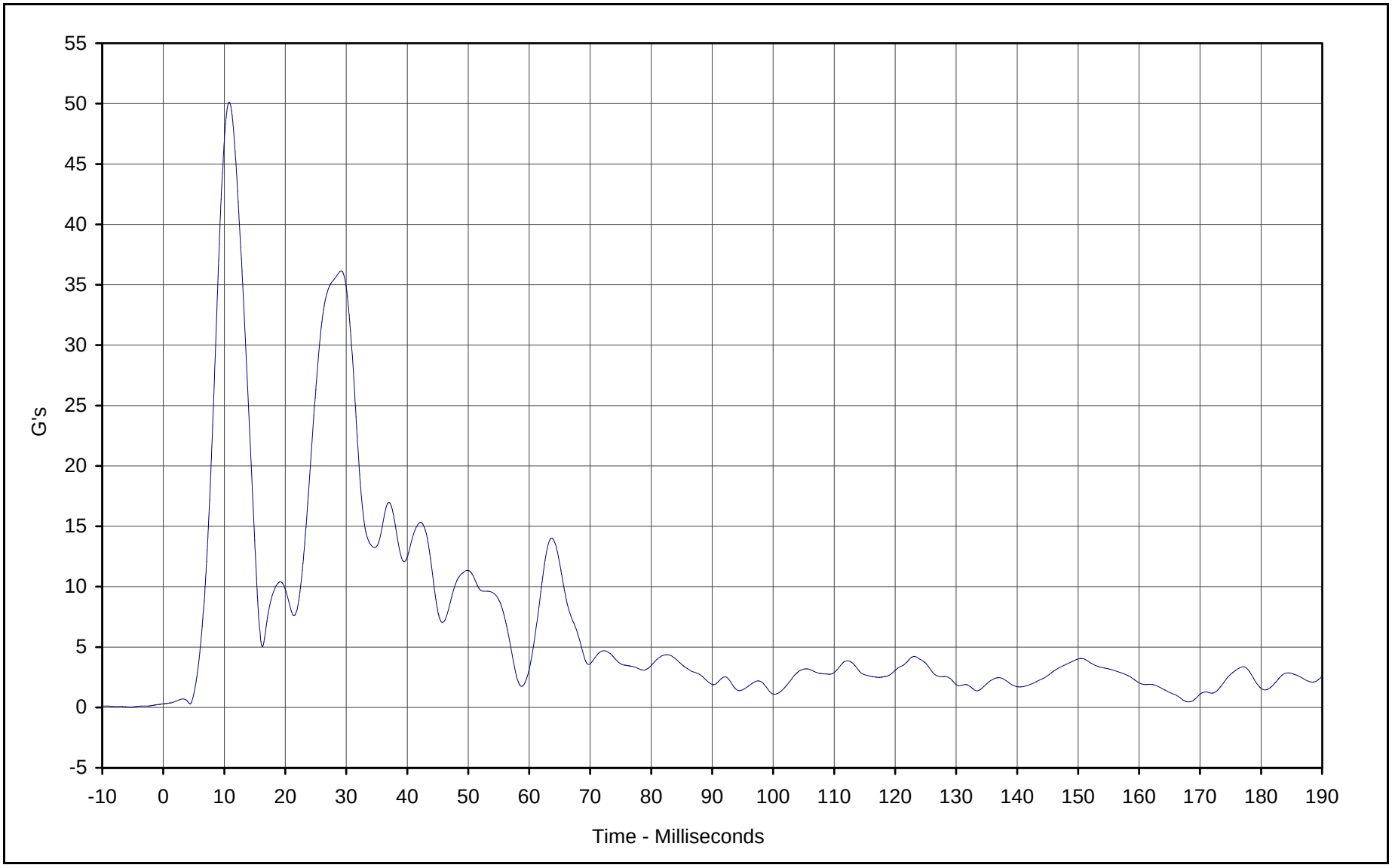
Curve Description:	Right Sill at Rear Seat Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	4.3	at	71.6 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.8	at	22.0 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-032				

KARCO Engineering



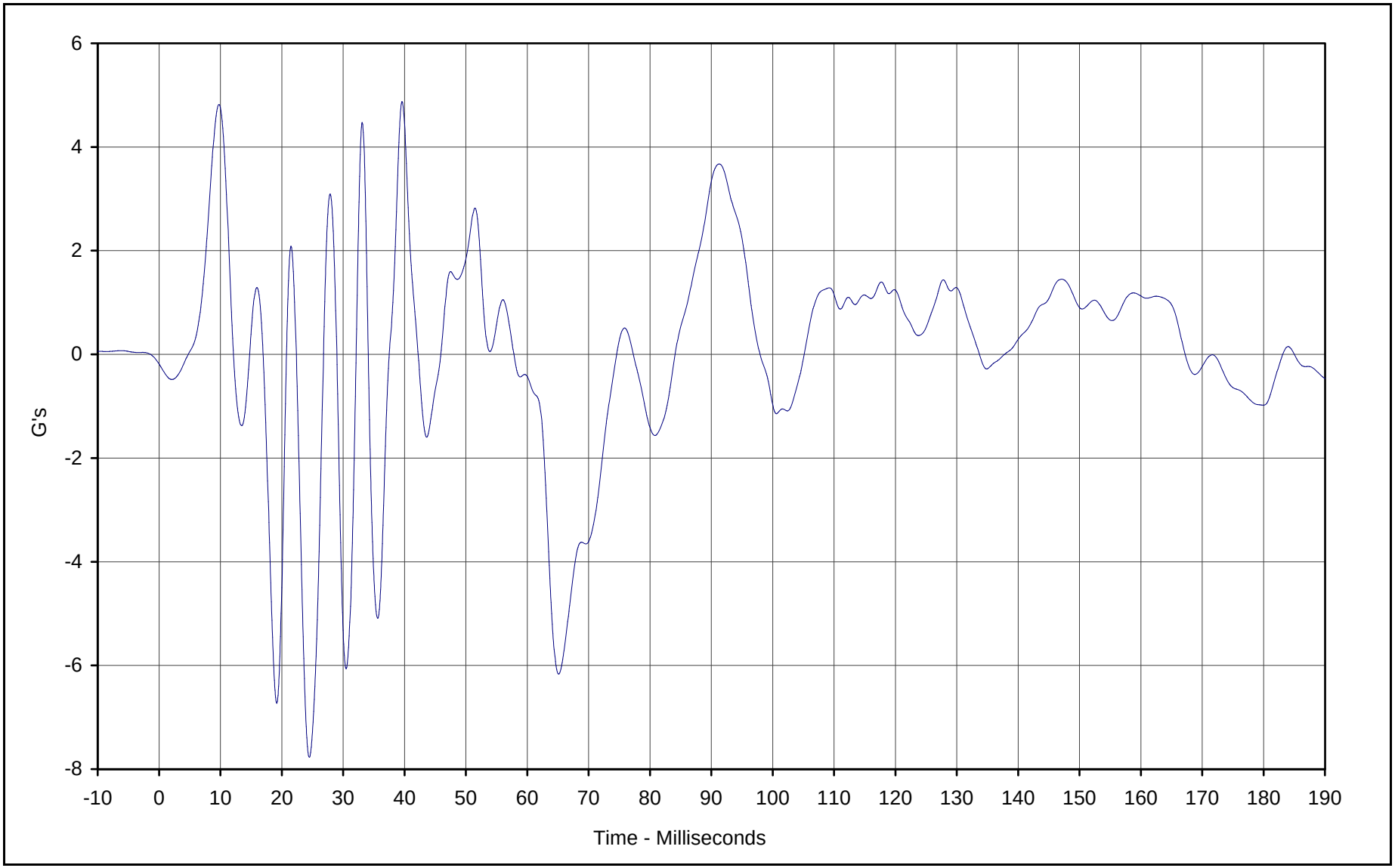
Curve Description:	Right Sill at Rear Seat Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	3.5	at	189.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-4.6	at	68.3 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-032				

KARC Engineering



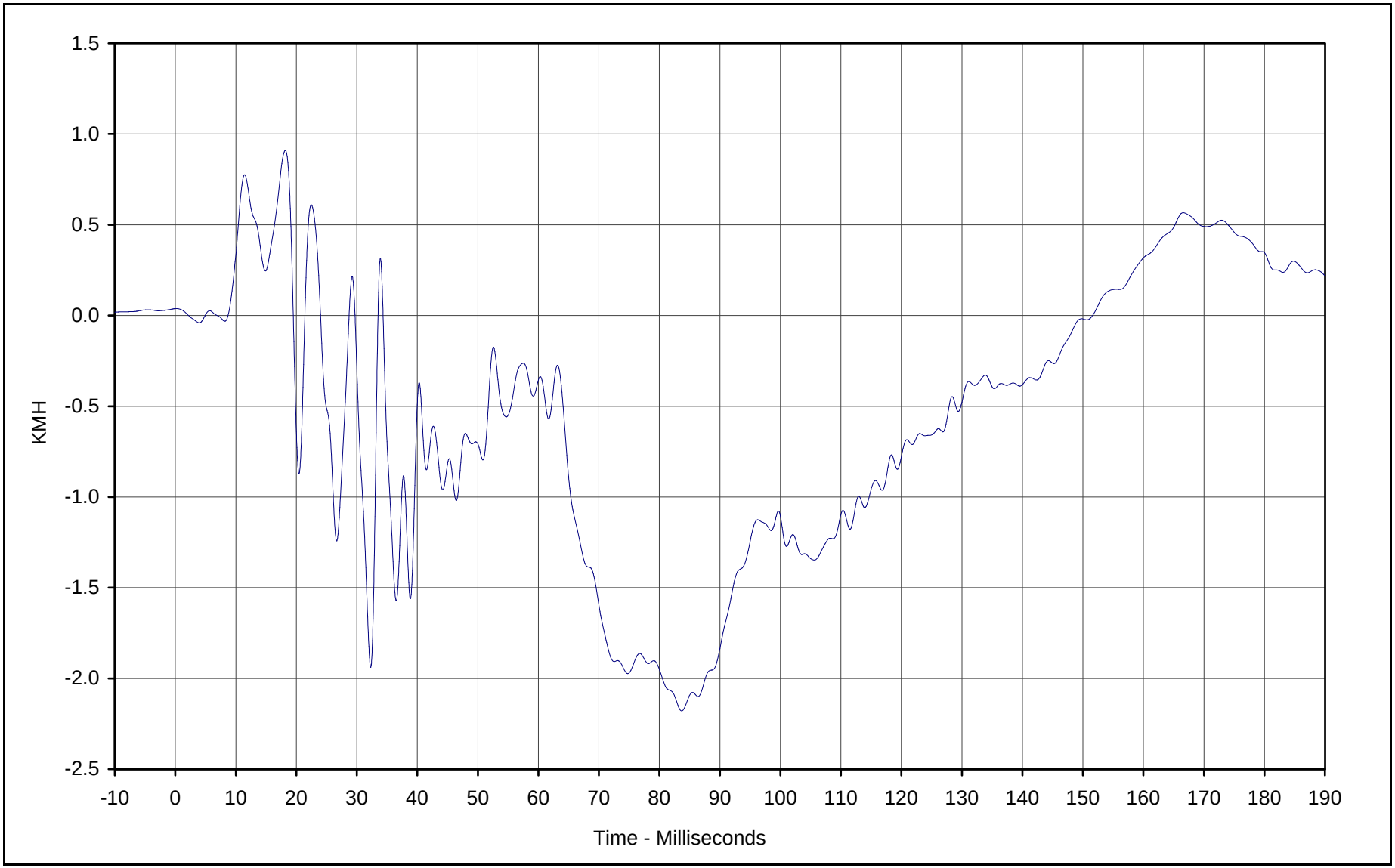
Curve Description:	Right Sill at Rear Resultant				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	50.1	at	10.8	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	0.3	at	4.4	Milliseconds			
SAE Filter Class:	60						
Date of Test:	11/30/00						
Curve Number:	RES-030						

KARCO Engineering



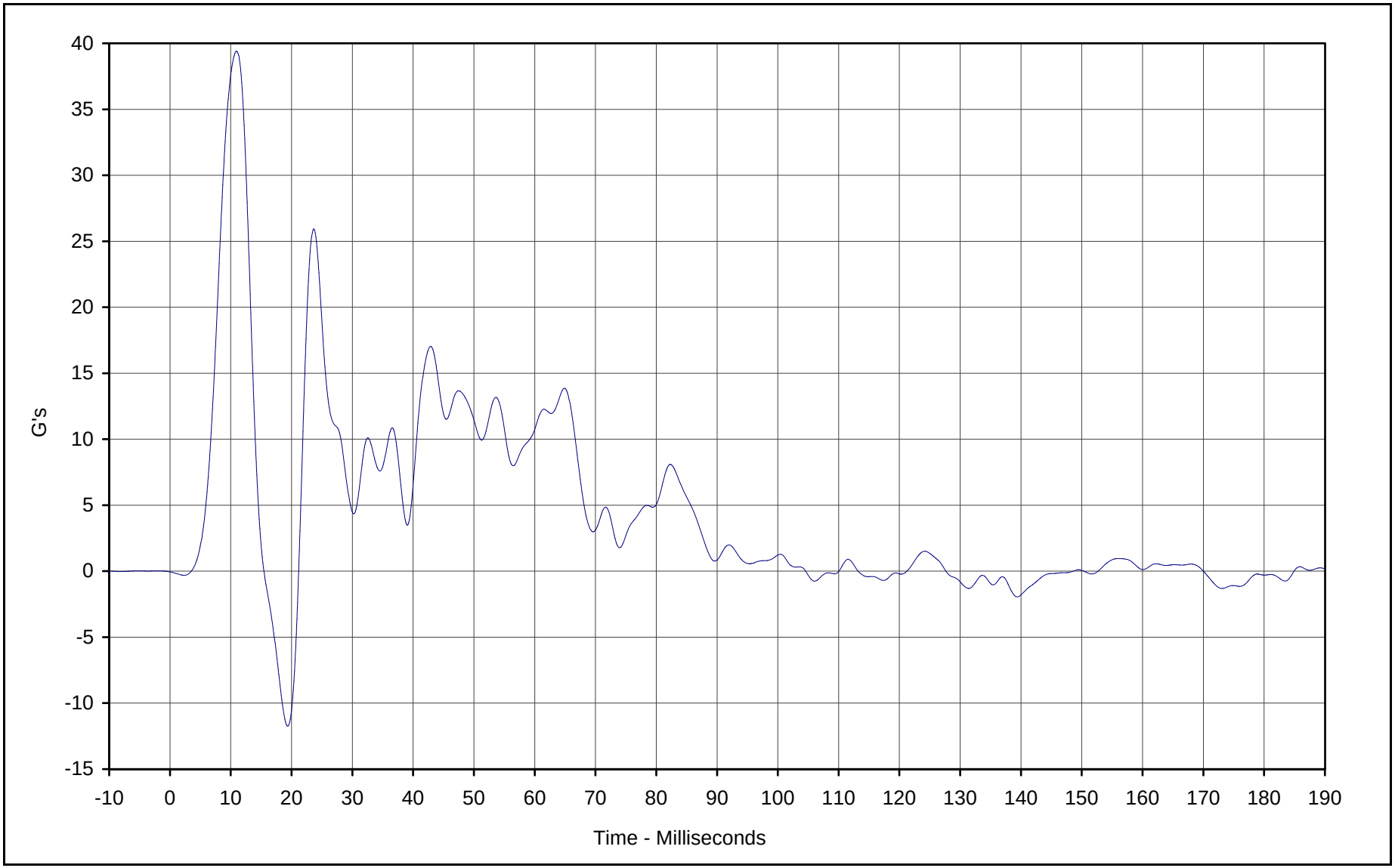
Curve Description:	Rear Floor Above Axle X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	4.9	at	39.6 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.8	at	24.5 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-033				

KARCO Engineering



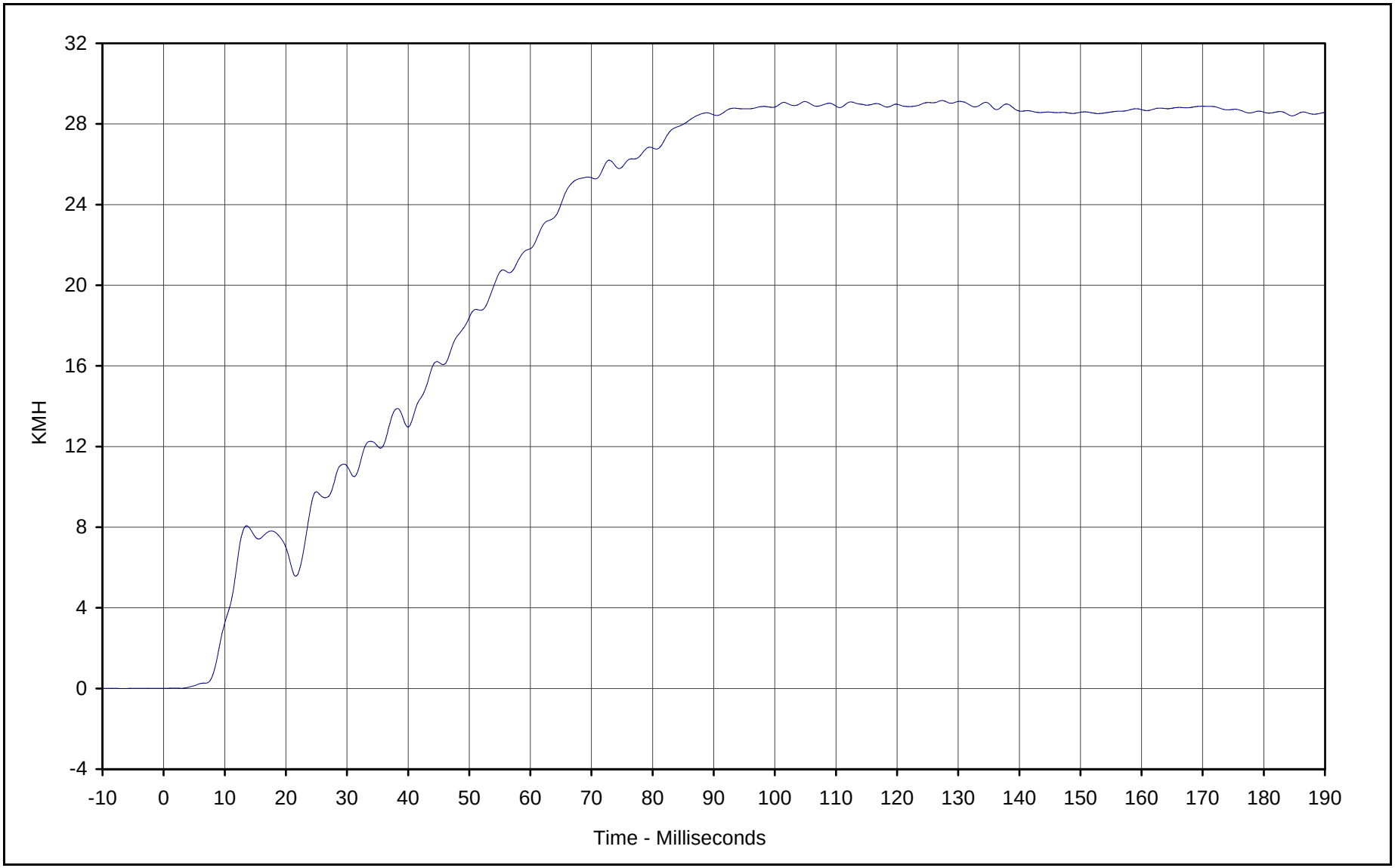
Curve Description:	Rear Floor Above Axle X Velocity				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	0.9	at	18.2	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	-2.2	at	83.7	Milliseconds			
SAE Filter Class:	180						
Date of Test:	11/30/00						
Curve Number:	IN1-033						

KARCO Engineering



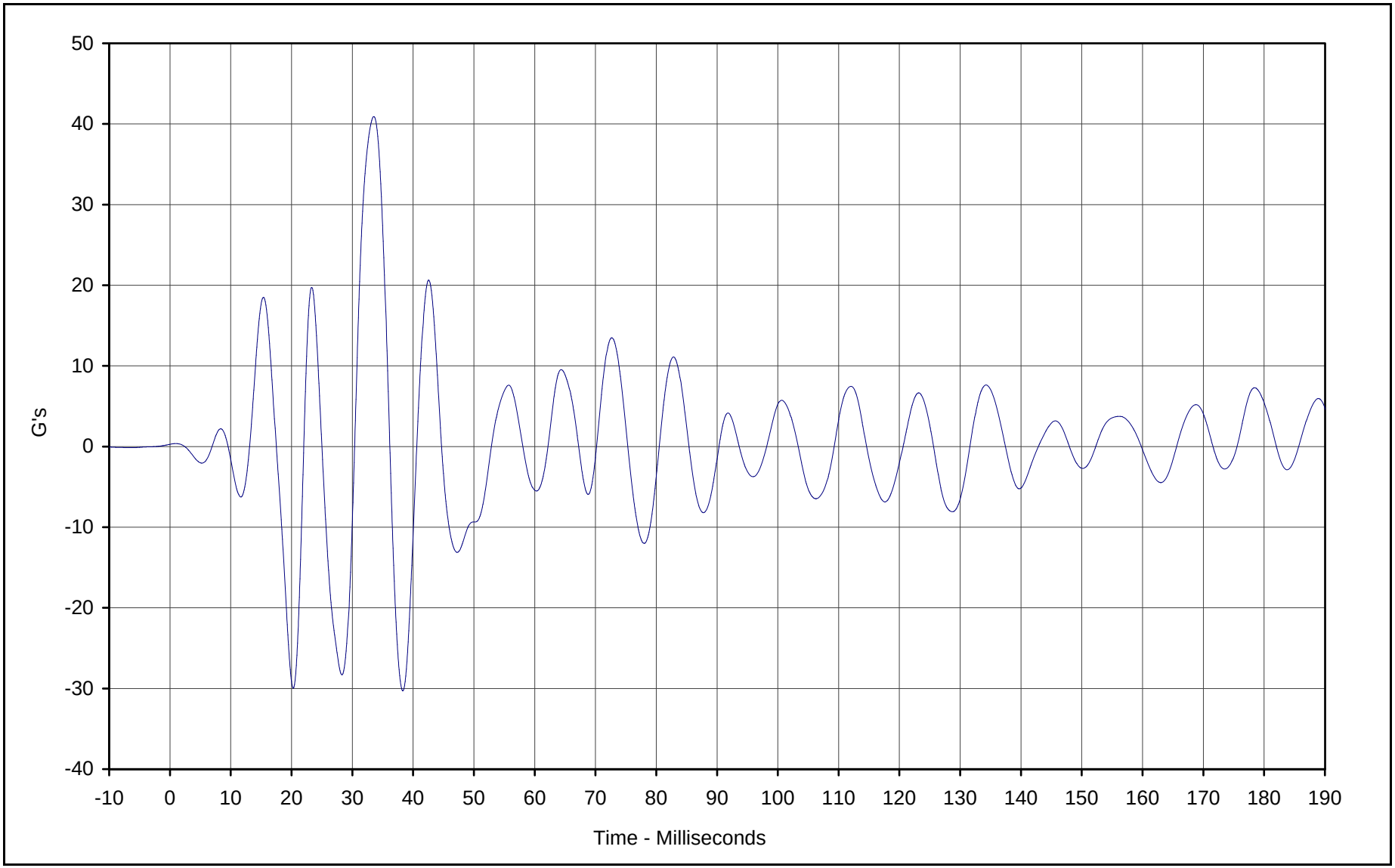
Curve Description:	Rear Floor Above Axle Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	39.4	at	11.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-11.7	at	19.4 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-034				

KARC Engineering



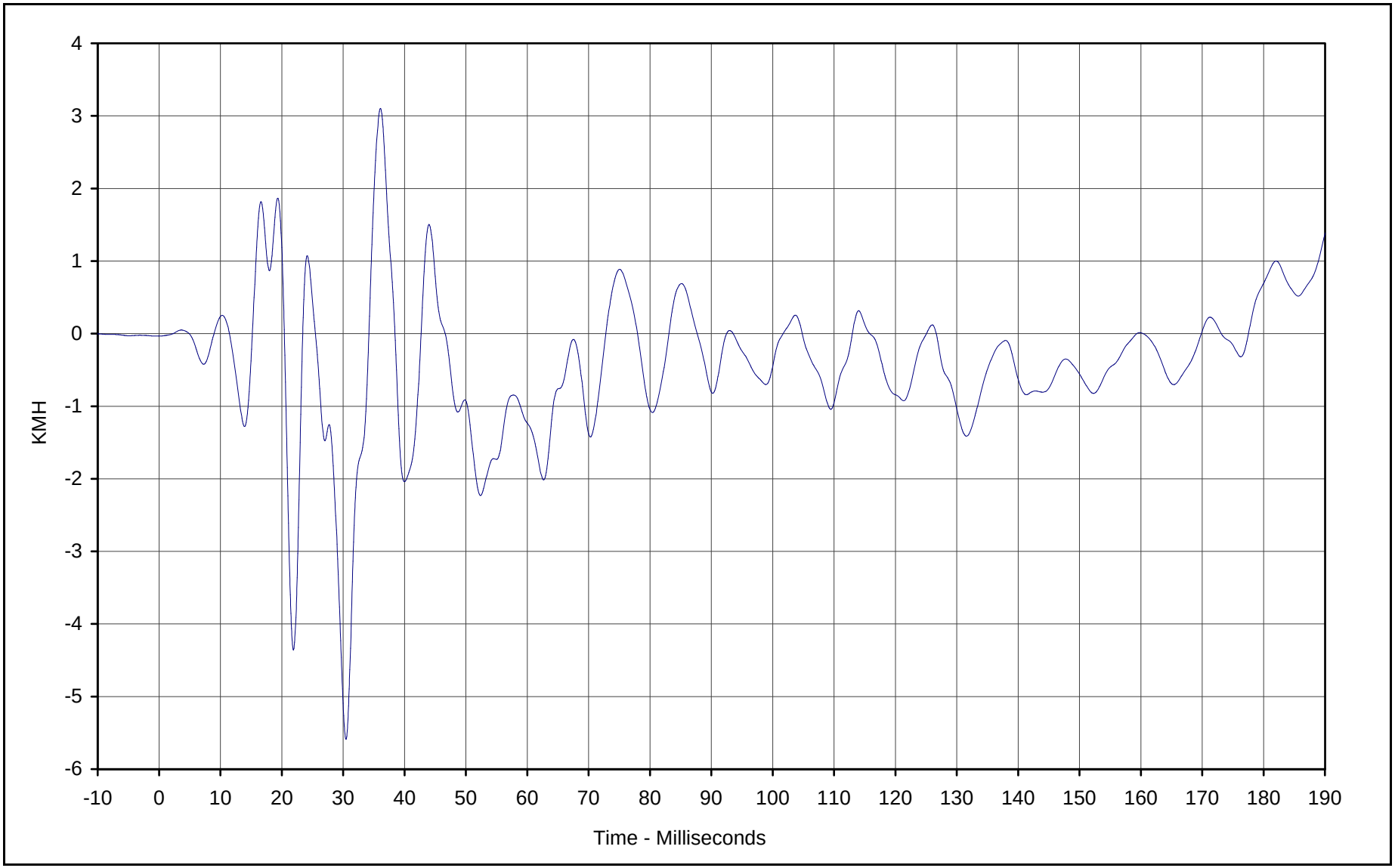
Curve Description:	Rear Floor Above Axle Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	29.2	at	127.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	2.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-034				

KARCO Engineering



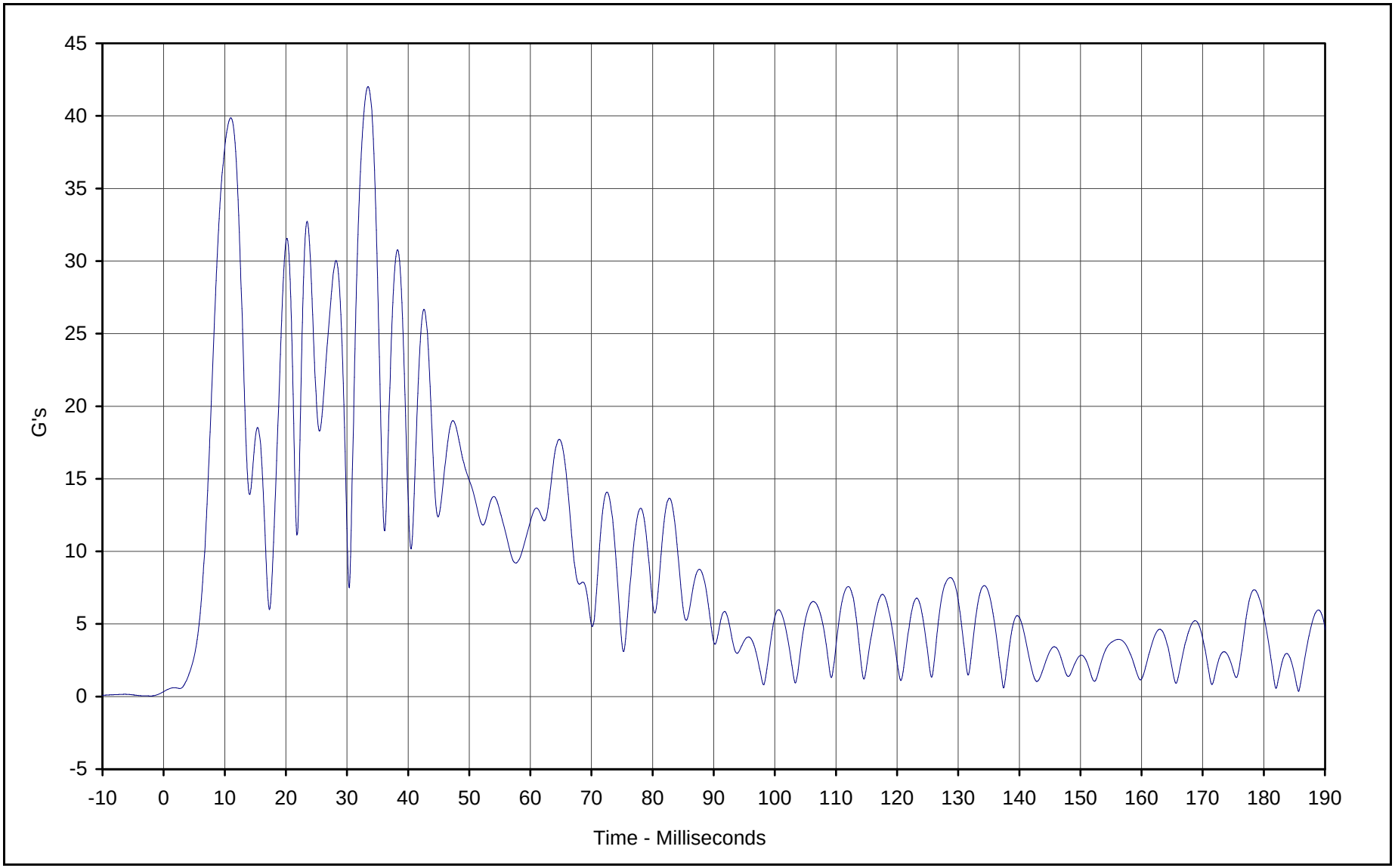
Curve Description:	Rear Floor Above Axle Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	40.9	at	33.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-30.3	at	38.3 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-035				

KARCO Engineering



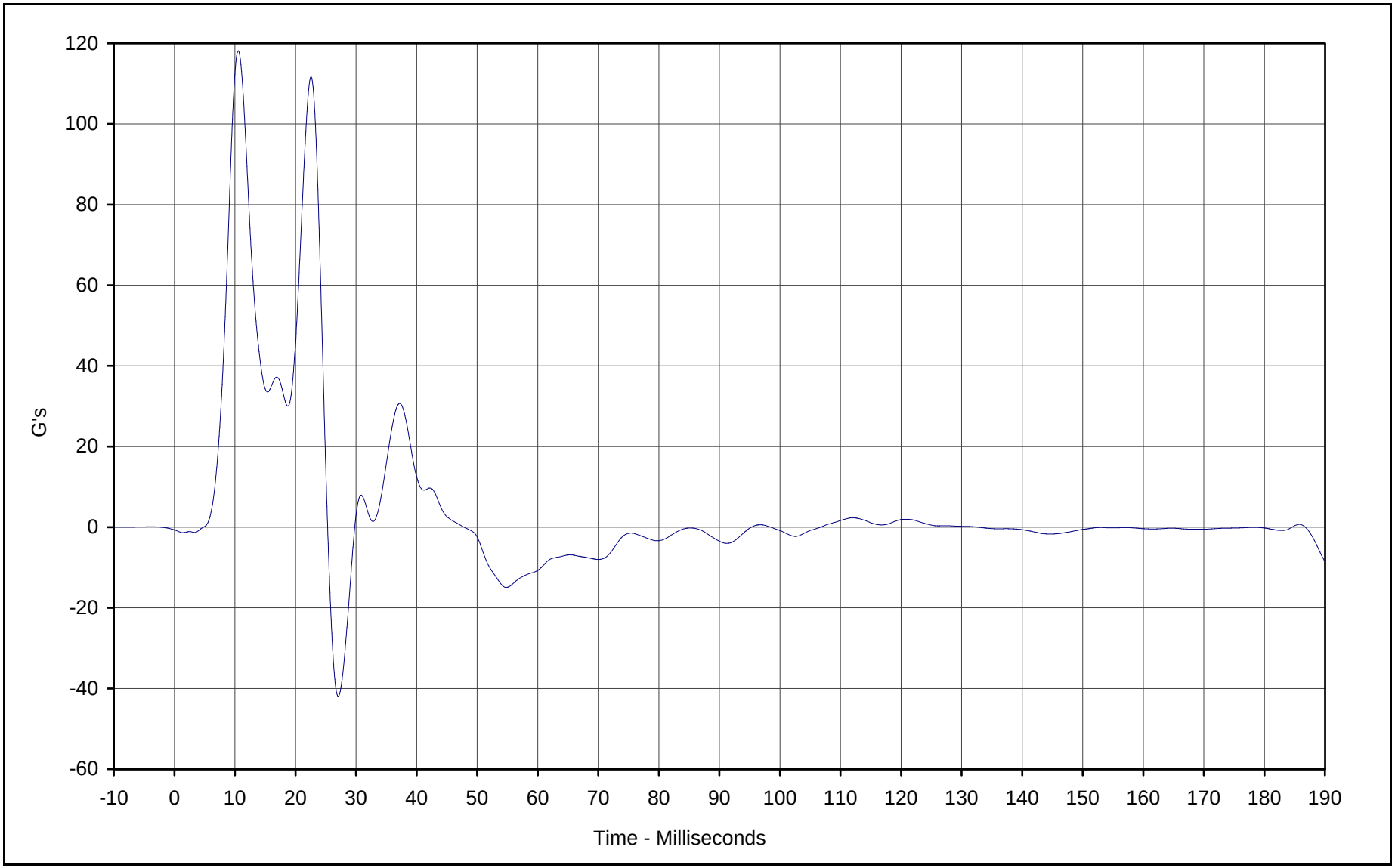
Curve Description:	Rear Floor Above Axle Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	3.1	at	36.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-5.6	at	30.5 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-035				

KARCO Engineering



Curve Description:	Rear Floor Above Axle Resultant				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	42.0	at	33.5	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	0.3	at	0.0	Milliseconds			
SAE Filter Class:	60						
Date of Test:	11/30/00						
Curve Number:	RES-033						

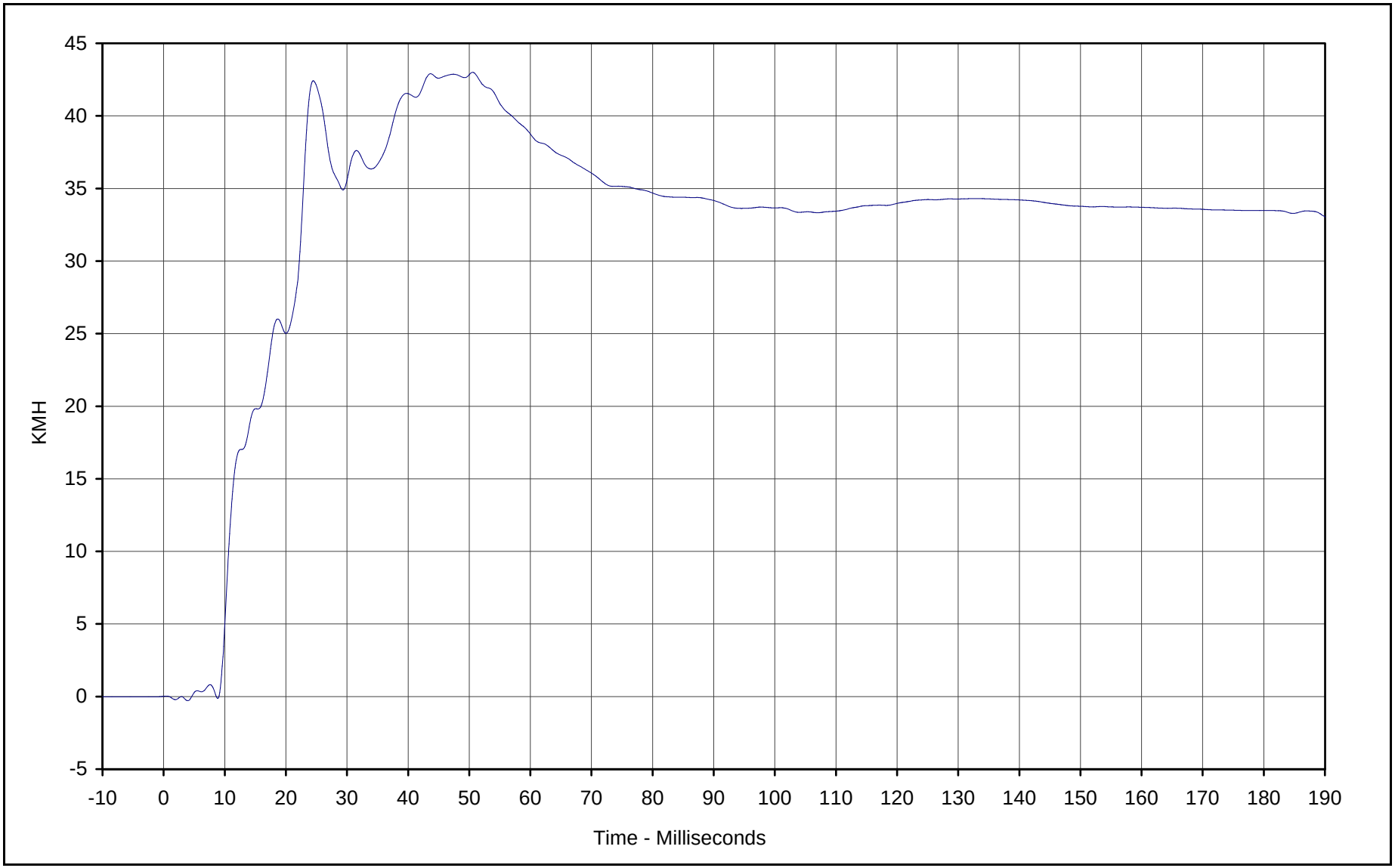
KARCO Engineering



Curve Description:	Left Sill at Rear Door Y				
Maximum Value:	118.1	at	10.6	Milliseconds	
Minimum Value:	-41.9	at	27.1	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-036				

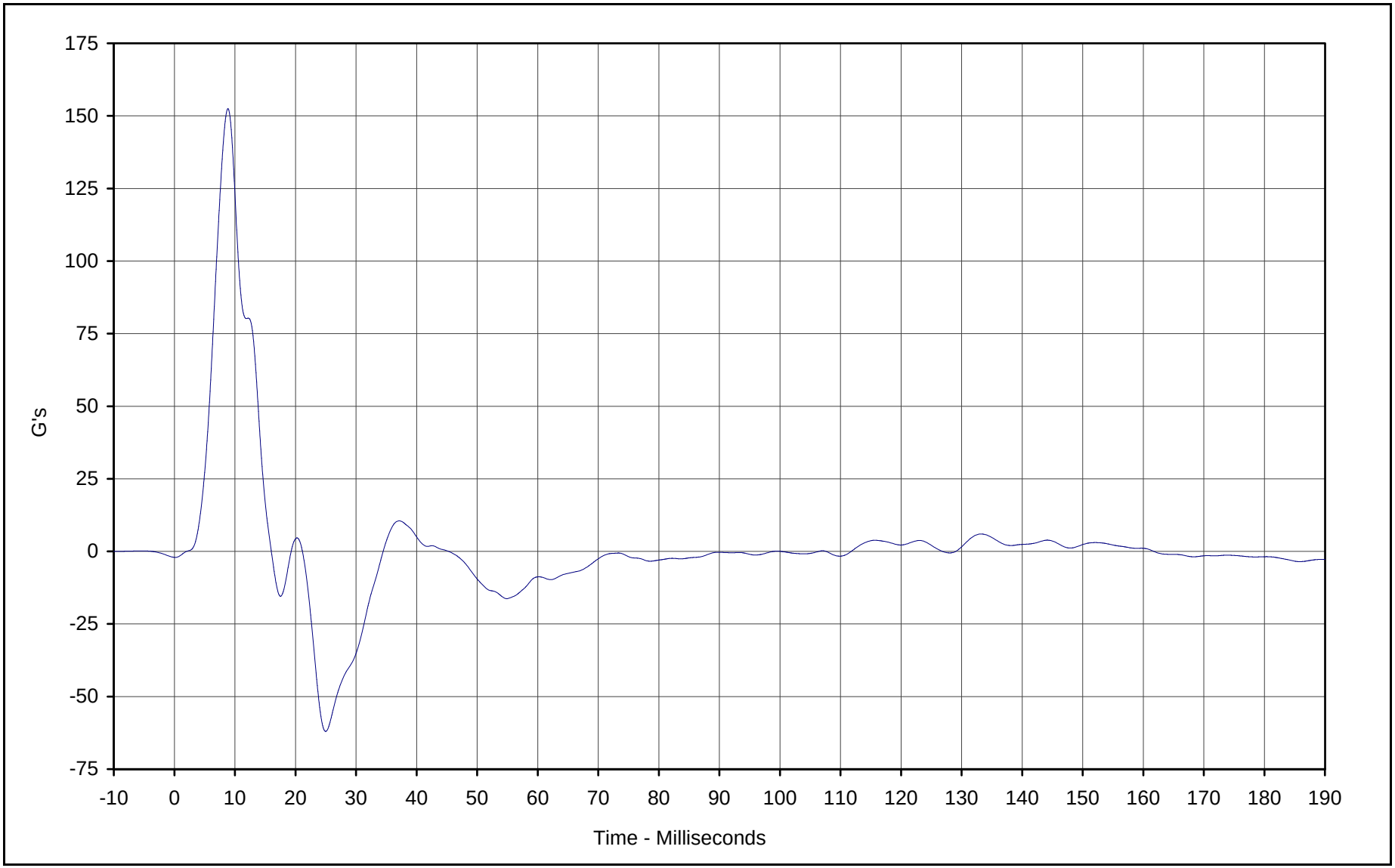
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Left Sill at Rear Door Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	43.0	at	50.6 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-0.3	at	3.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-036				

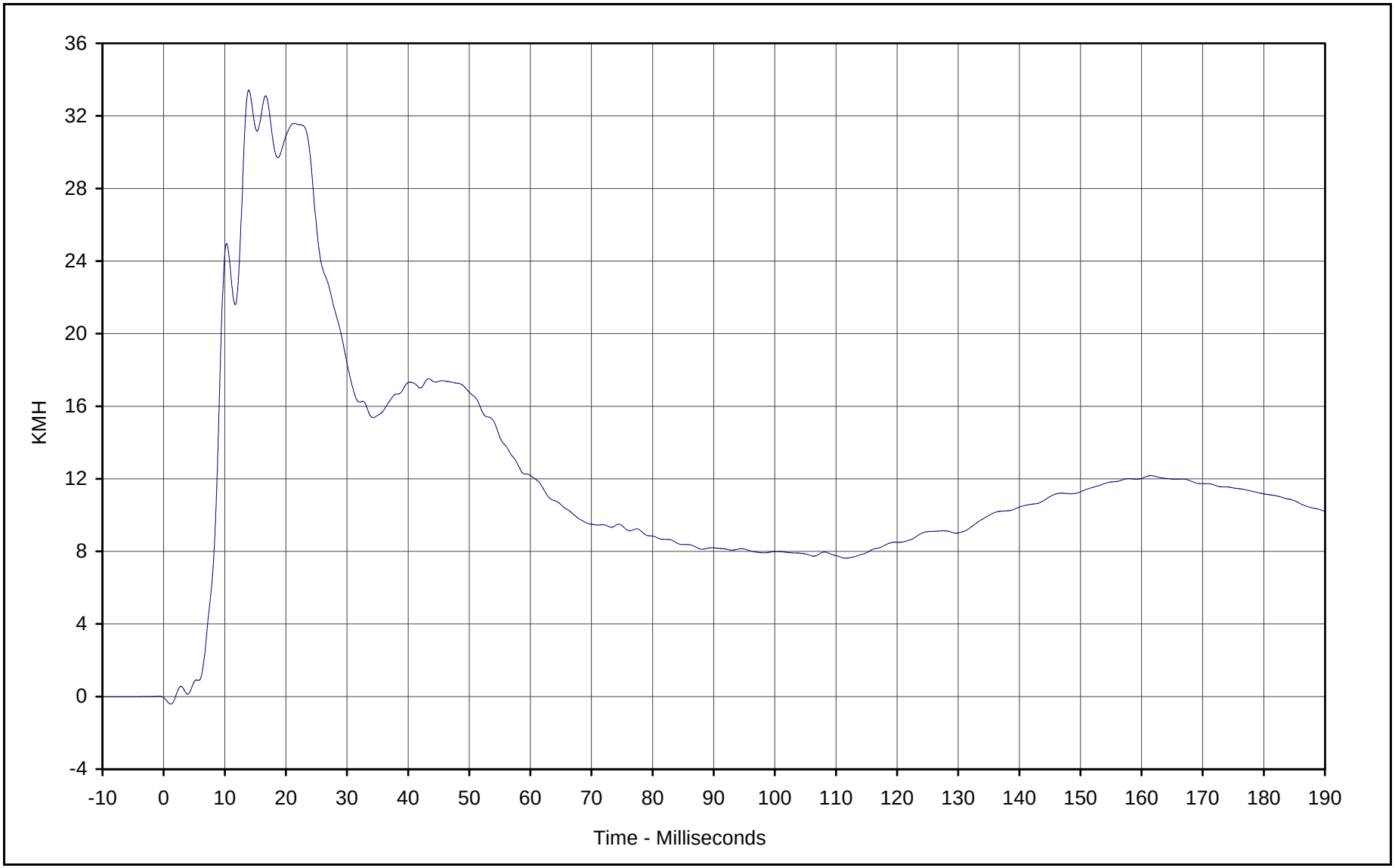
KARCO Engineering



Curve Description:	Left Sill at Front Door Y				
Maximum Value:	152.5	at	8.9	Milliseconds	
Minimum Value:	-62.0	at	25.0	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-037				

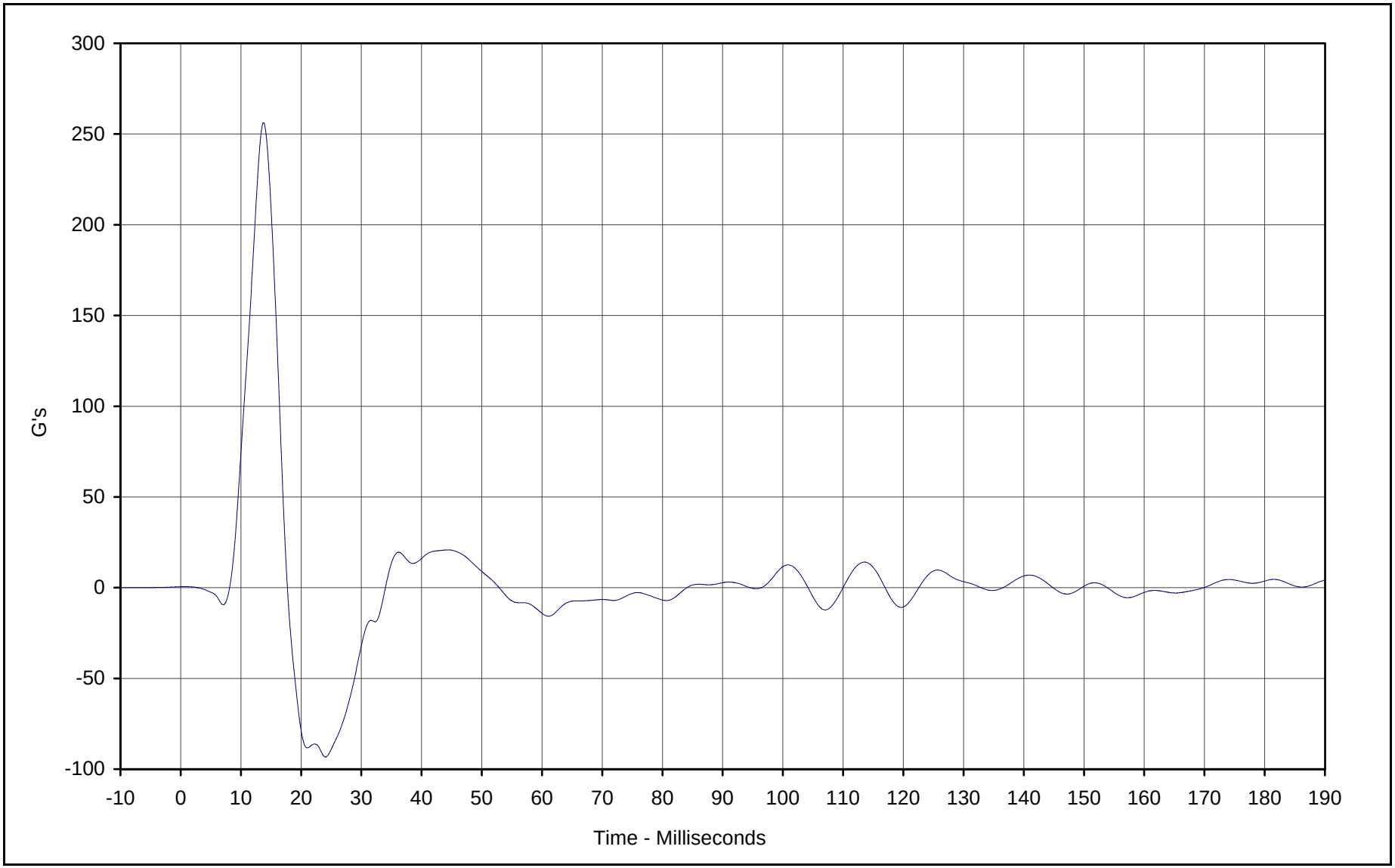
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Left Sill at Front Door Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	33.4	at	13.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-0.4	at	1.2 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-037				

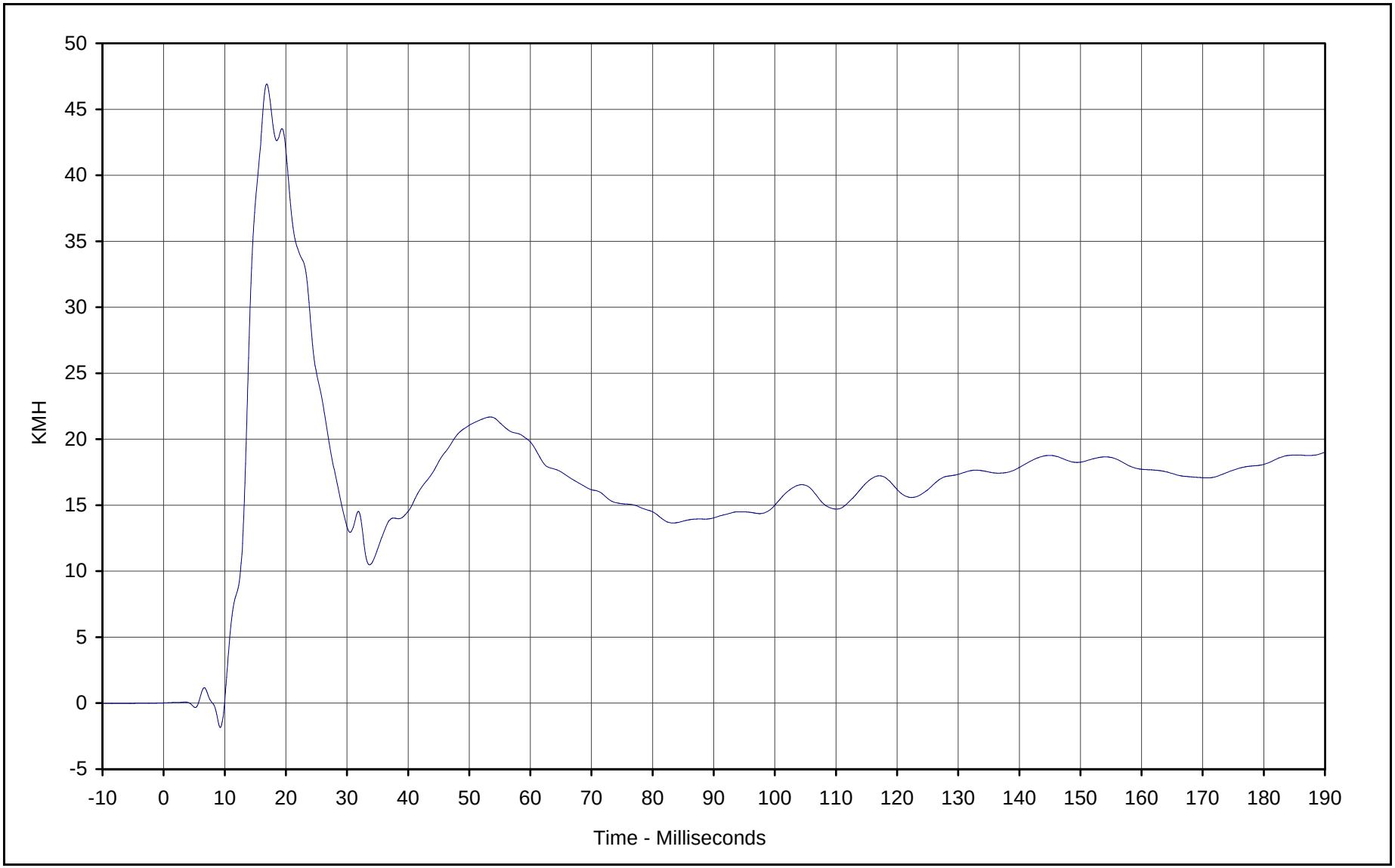
KARCO Engineering



Curve Description:	Left Front Door Centerline Y				
Maximum Value:	256.2	at	13.8	Milliseconds	
Minimum Value:	-93.3	at	24.0	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-038				

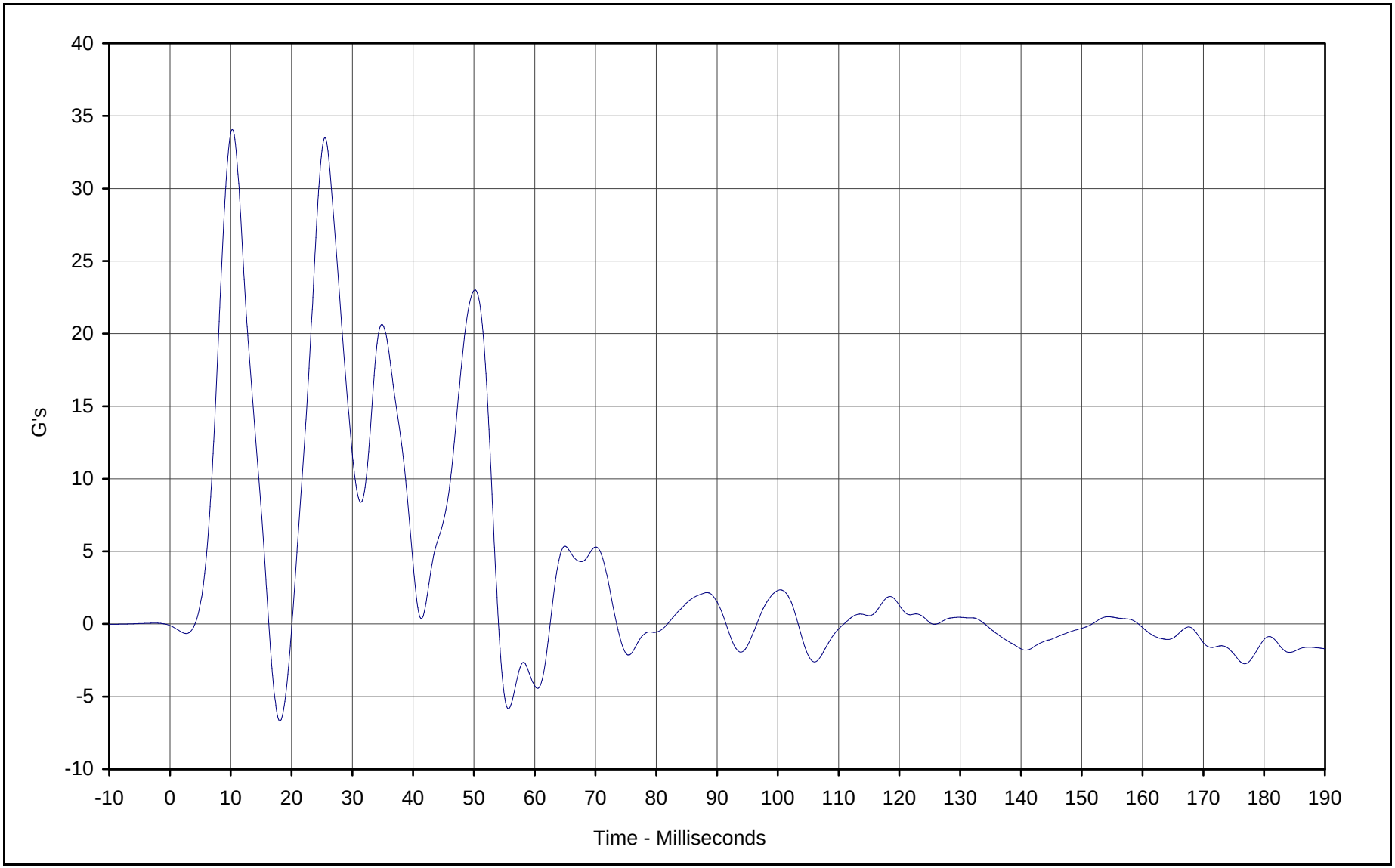
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



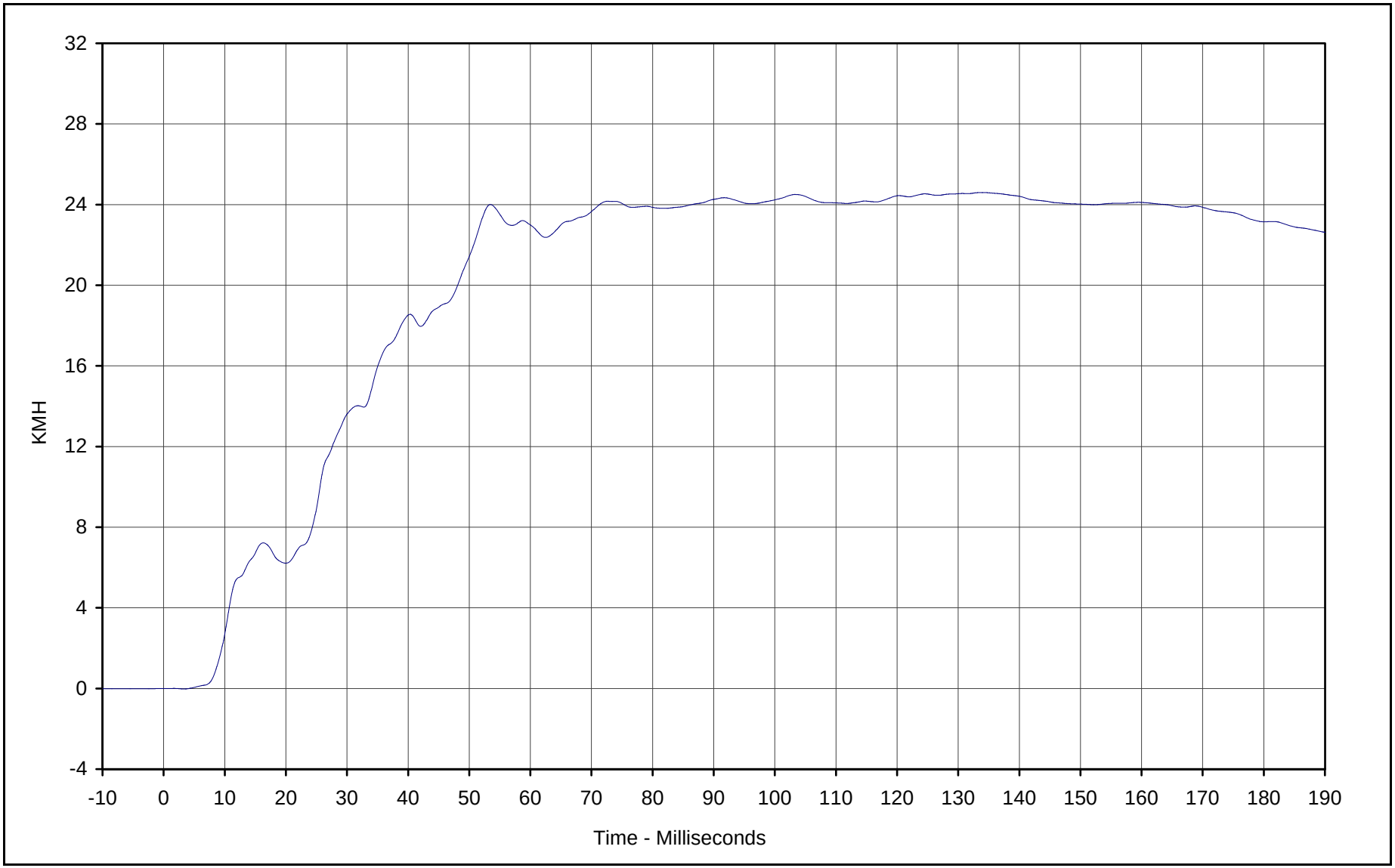
Curve Description:	Left Front Door CL Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	46.9	at	16.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-1.8	at	9.3 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-038				

KARCO Engineering



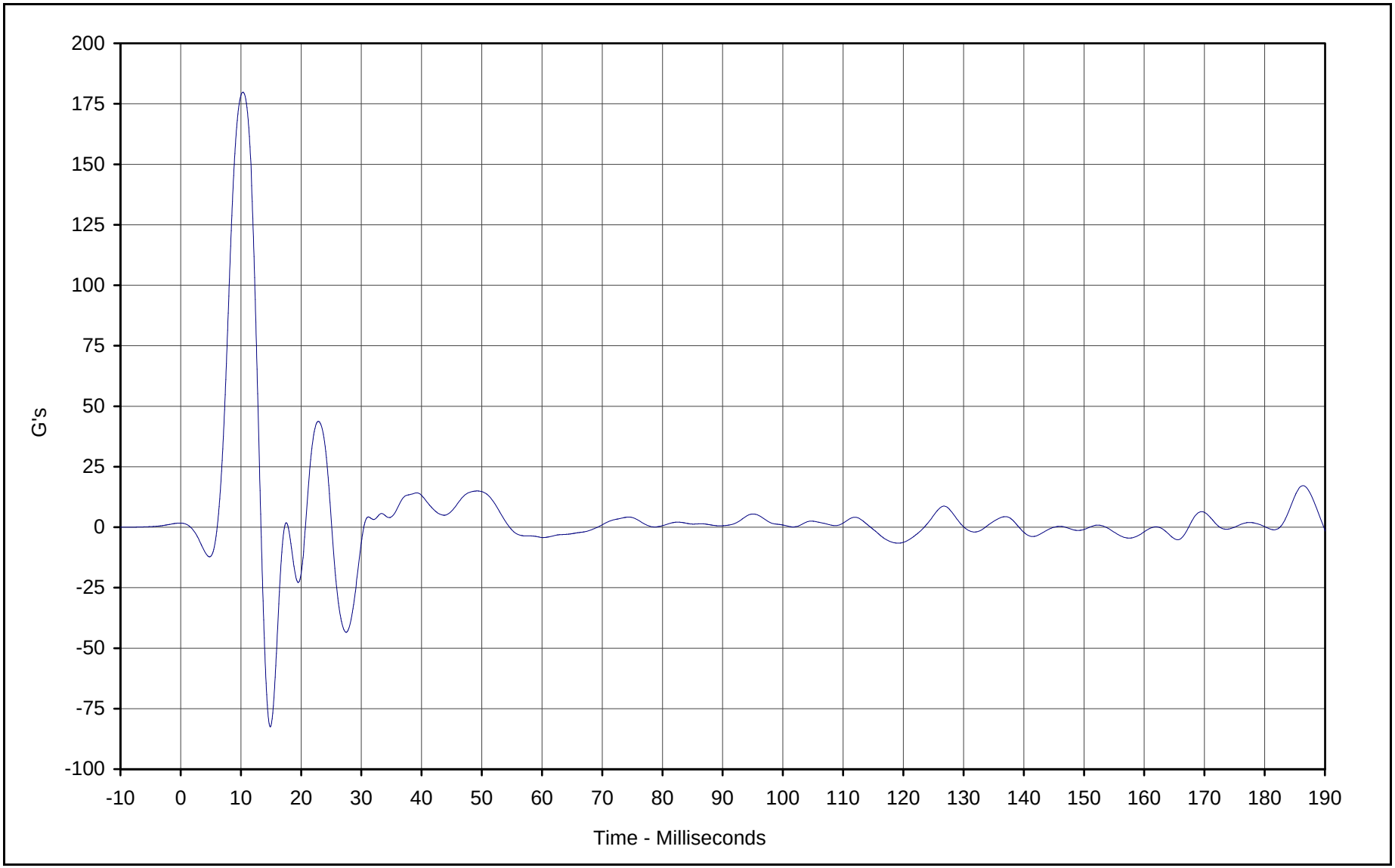
Curve Description:	Right Rear Occ. Compartment Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	34.1	at	10.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.7	at	18.1 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-039				

KARCO Engineering



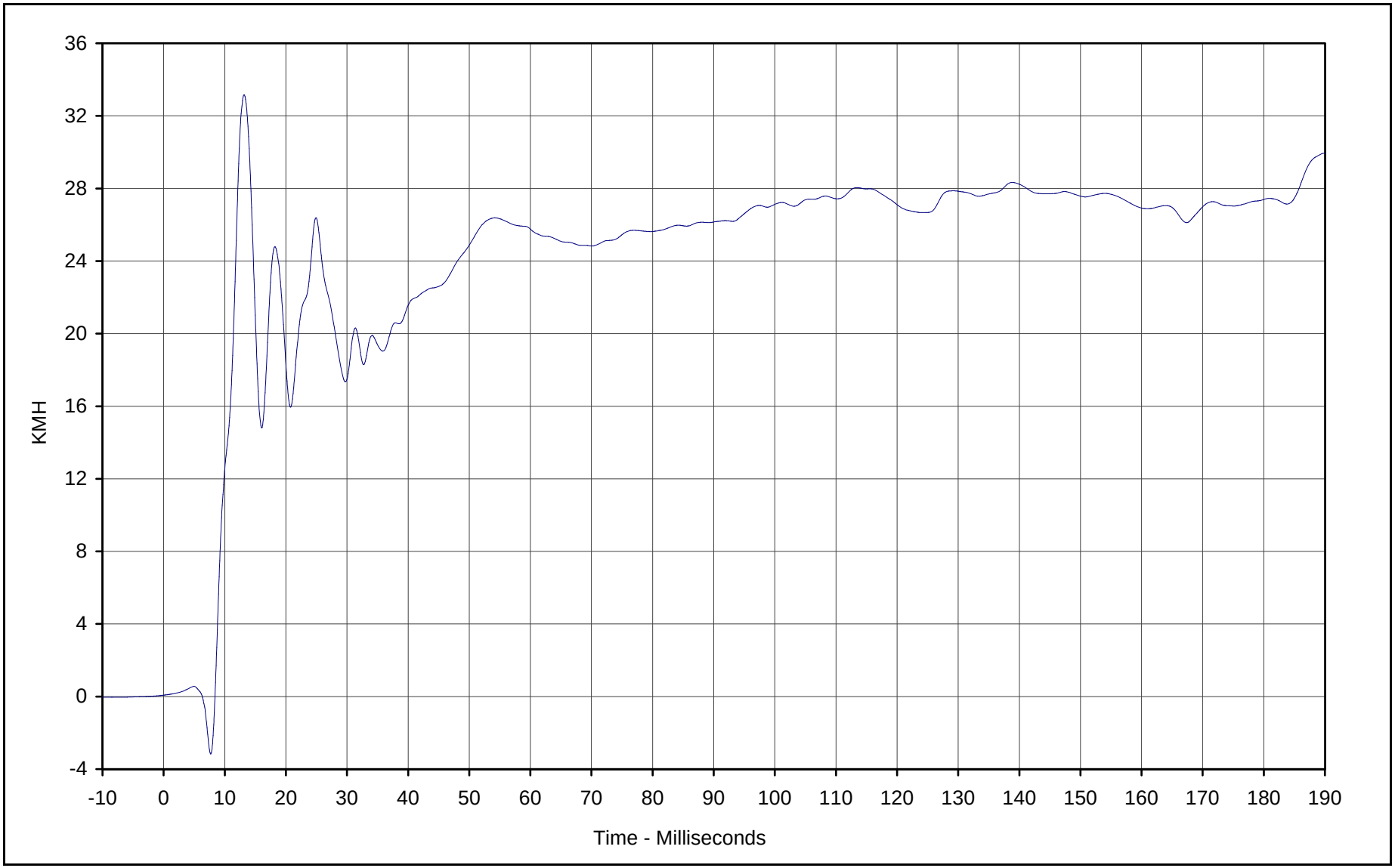
Curve Description:	Right Rear Occ. Comp. Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	24.6	at	134.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	3.4 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-039				

KARCO Engineering



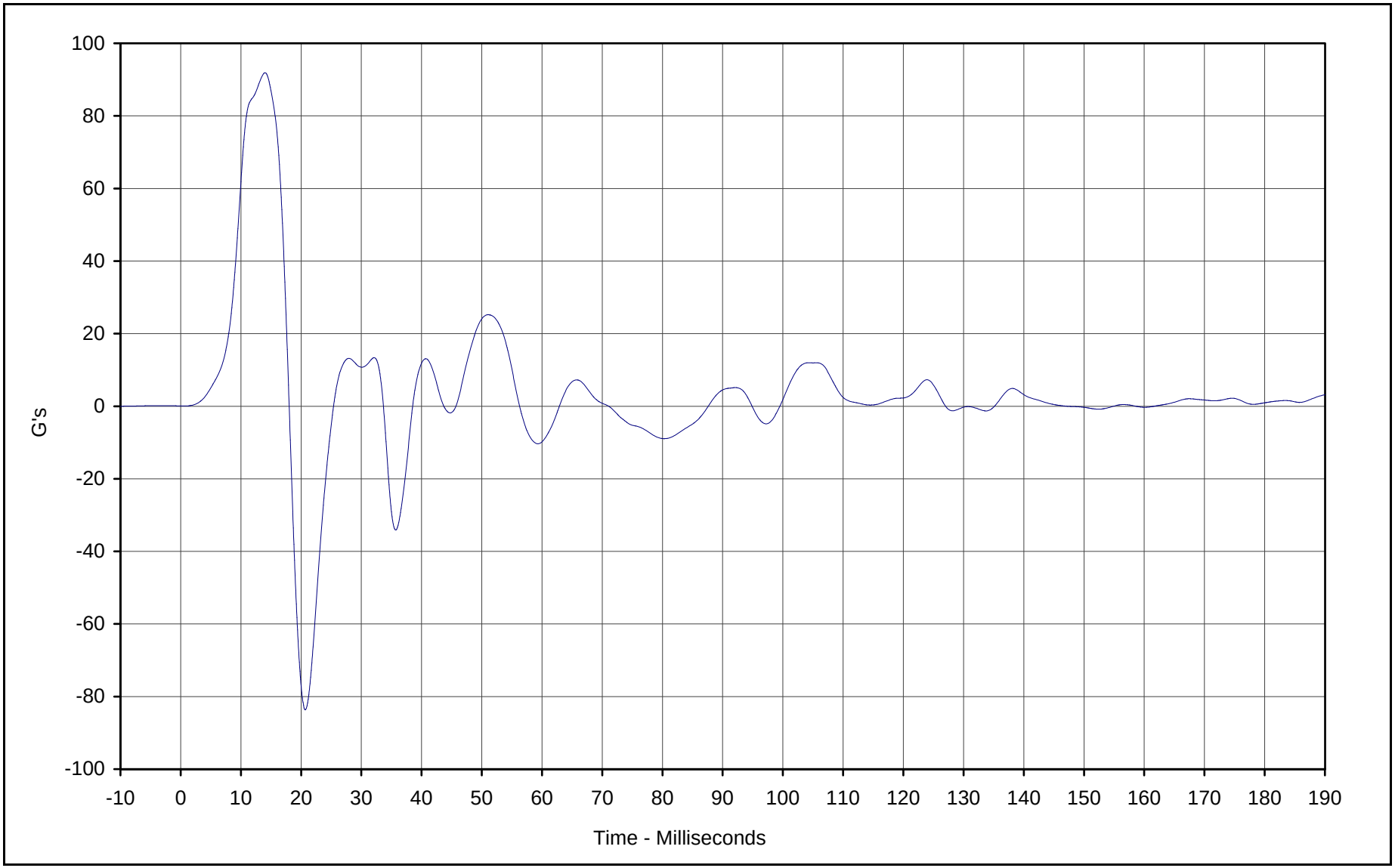
Curve Description:	Left Front Door Mid Rear Y				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	179.8	at	10.3	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	-82.5	at	14.9	Milliseconds			
SAE Filter Class:	60						
Date of Test:	11/30/00						
Curve Number:	FIL-040						

KARCO Engineering



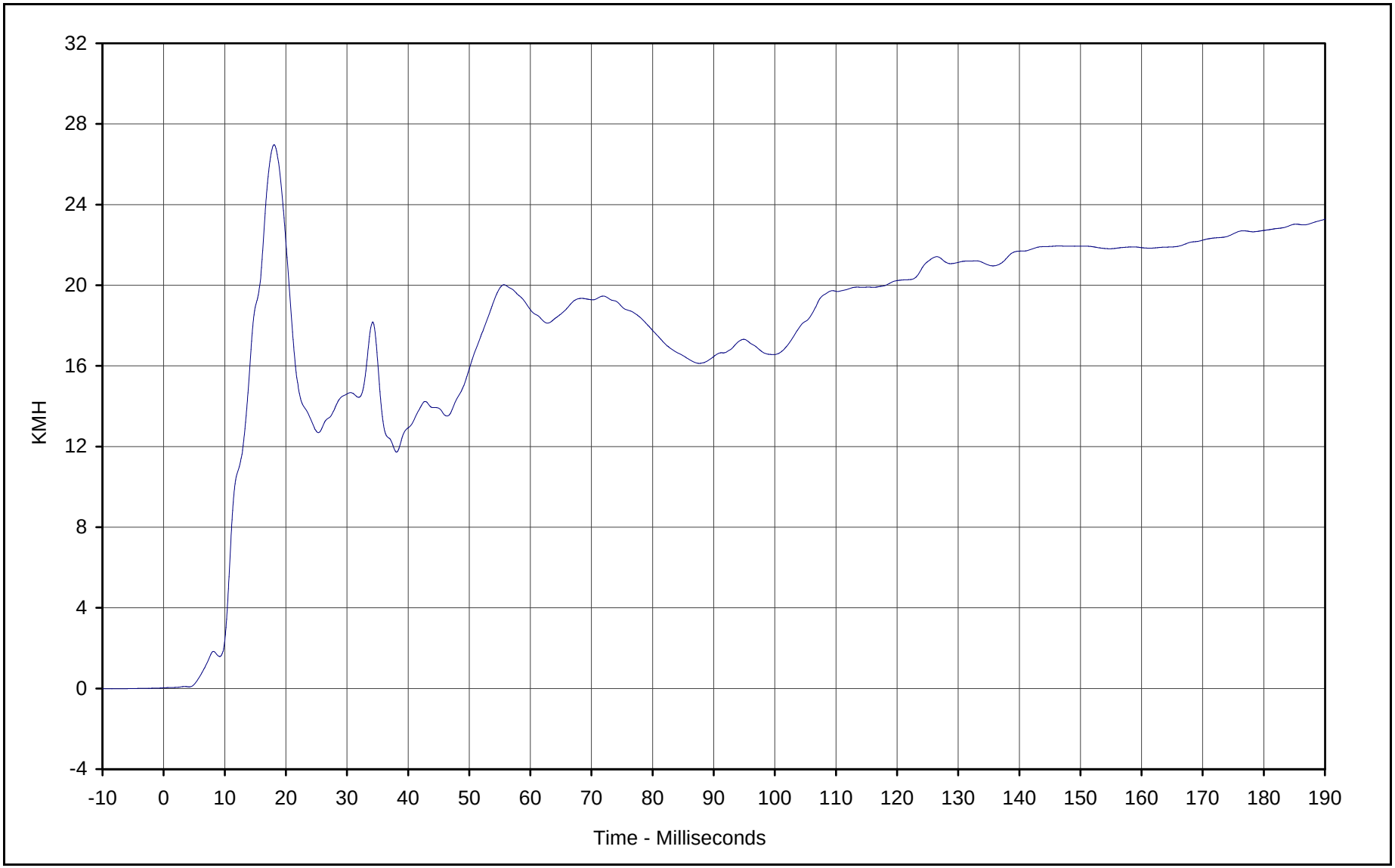
Curve Description:	Left Front Door Mid-Rear Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	33.2	at	13.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-3.2	at	7.7 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-040				

KARCO Engineering



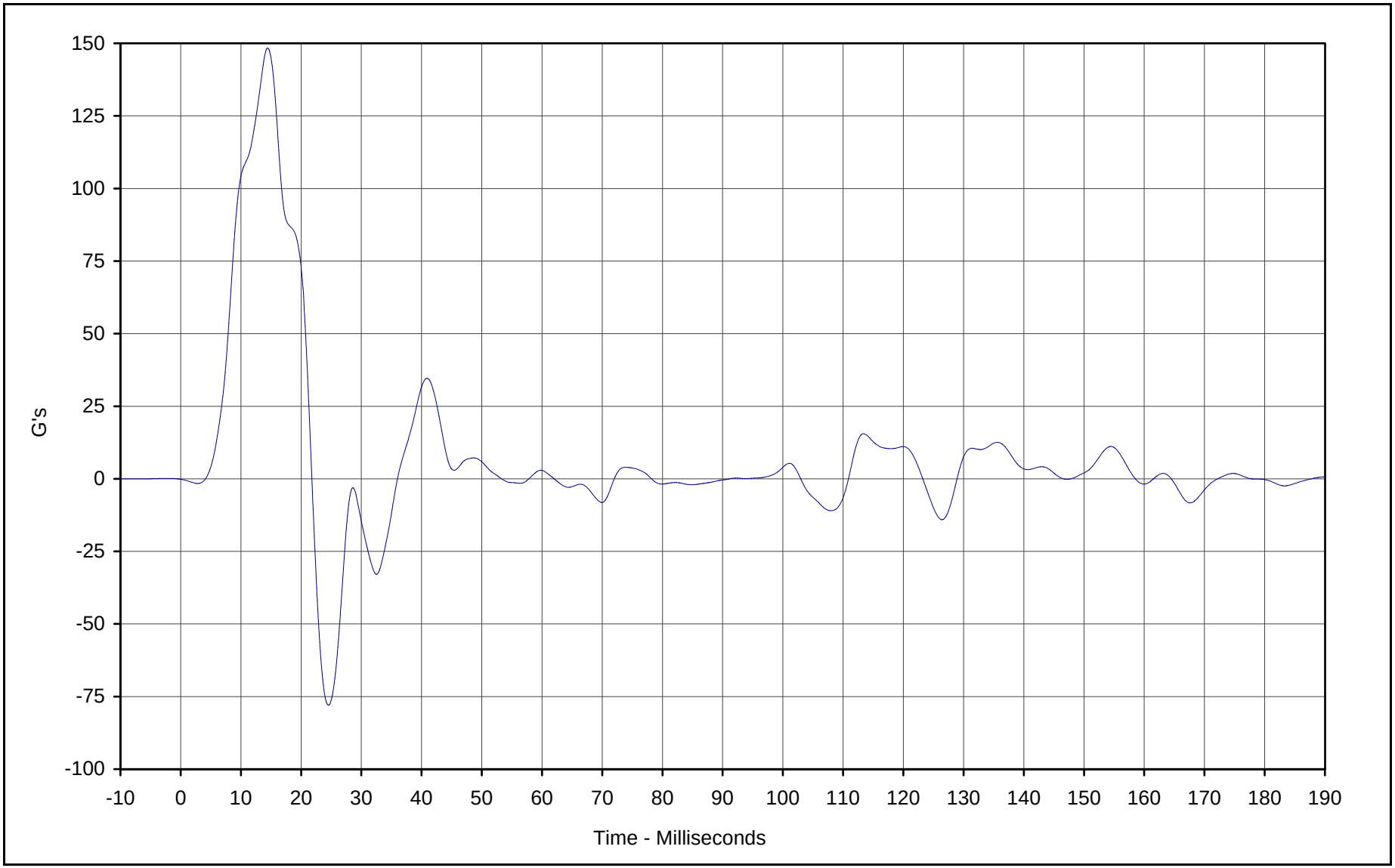
Curve Description:	Left Front Door Upper CL Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	91.9	at	14.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-83.7	at	20.7 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-041				

KARCO Engineering



Curve Description:	Left Front Door Upper CL Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	27.0	at	18.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.0 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-041				

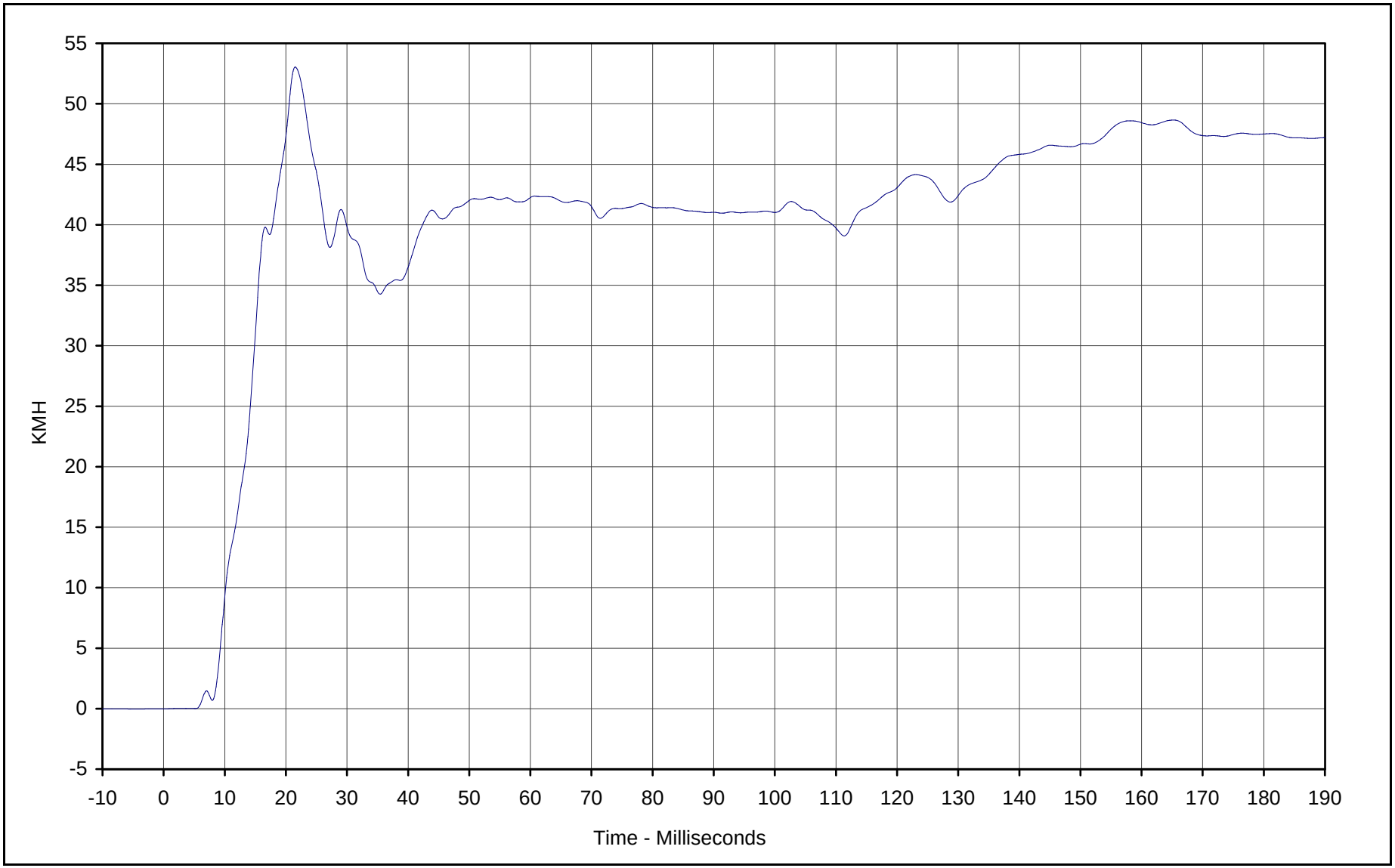
KARCO Engineering



Curve Description:	Left Rear Door Mid Rear Y				
Maximum Value:	148.4	at	14.5	Milliseconds	
Minimum Value:	-78.0	at	24.5	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-042				

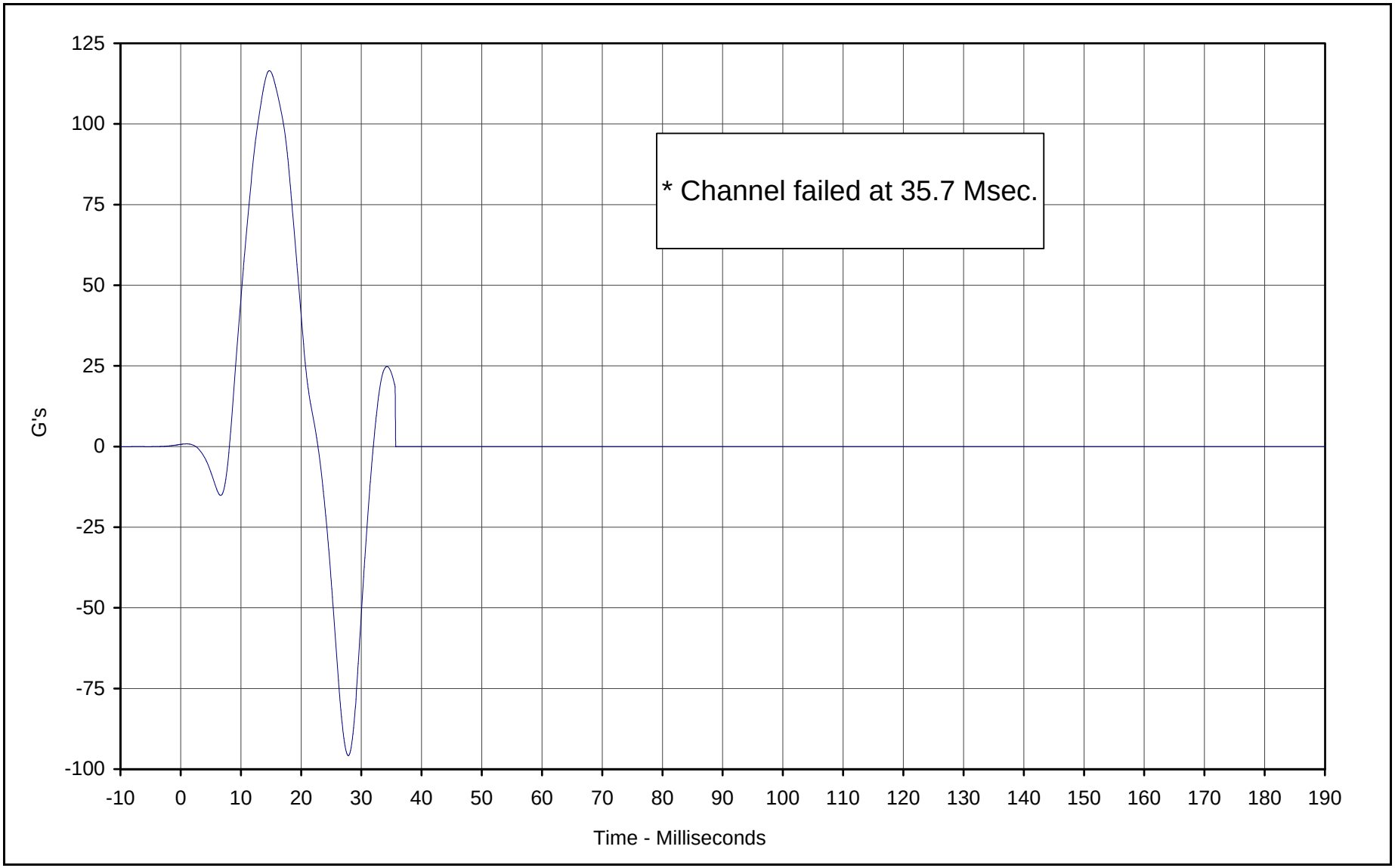
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Left Rear Door Mid Rear Y Velocity				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	53.0	at	21.6	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	0.0	at	0.0	Milliseconds			
SAE Filter Class:	180						
Date of Test:	11/30/00						
Curve Number:	IN1-042						

KARCO Engineering



Curve Description: Left Rear Door Upper CL Y *

Maximum Value: 116.5 at 14.7 Milliseconds

Minimum Value: -95.8 at 27.8 Milliseconds

SAE Filter Class: 60

Date of Test: 11/30/00

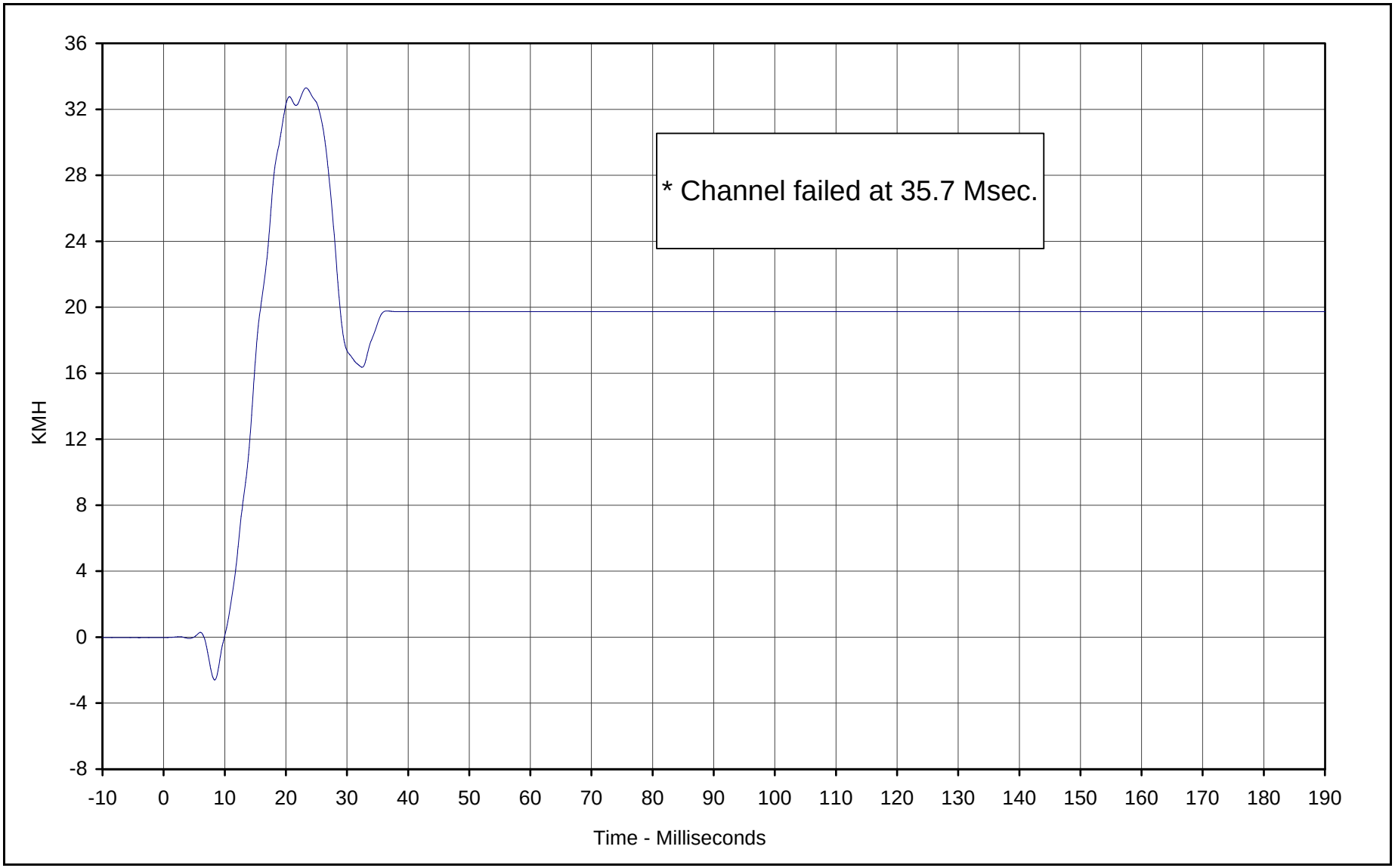
Curve Number: FIL-043

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

* Channel failed at 35.7 Msec.

KARCO Engineering



Curve Description: Left Rear Door Upper CL Y Velocity *

Maximum Value: 33.3 at 23.3 Milliseconds

Minimum Value: -2.6 at 8.4 Milliseconds

SAE Filter Class: 180

Date of Test: 11/30/00

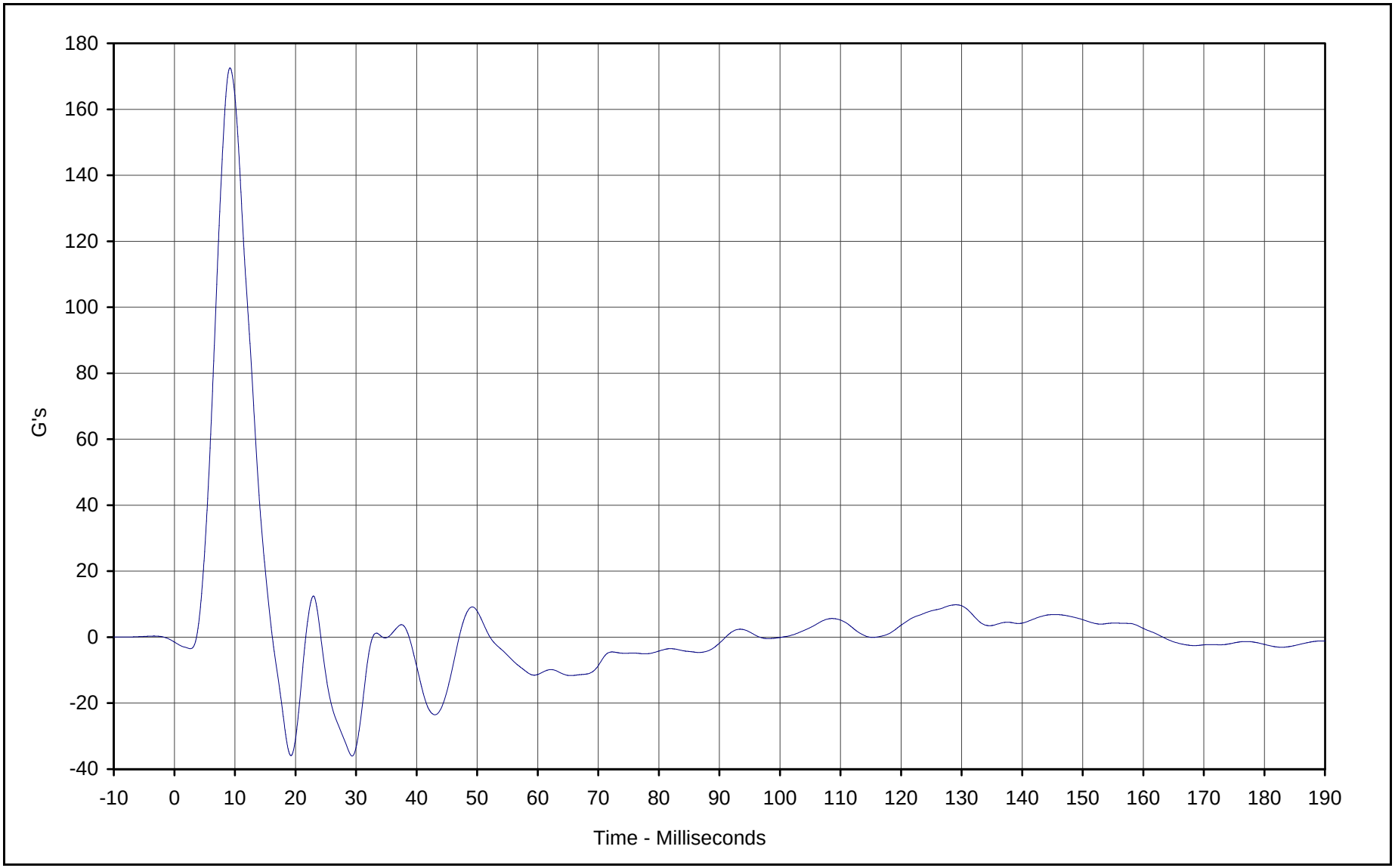
Curve Number: IN1-043

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

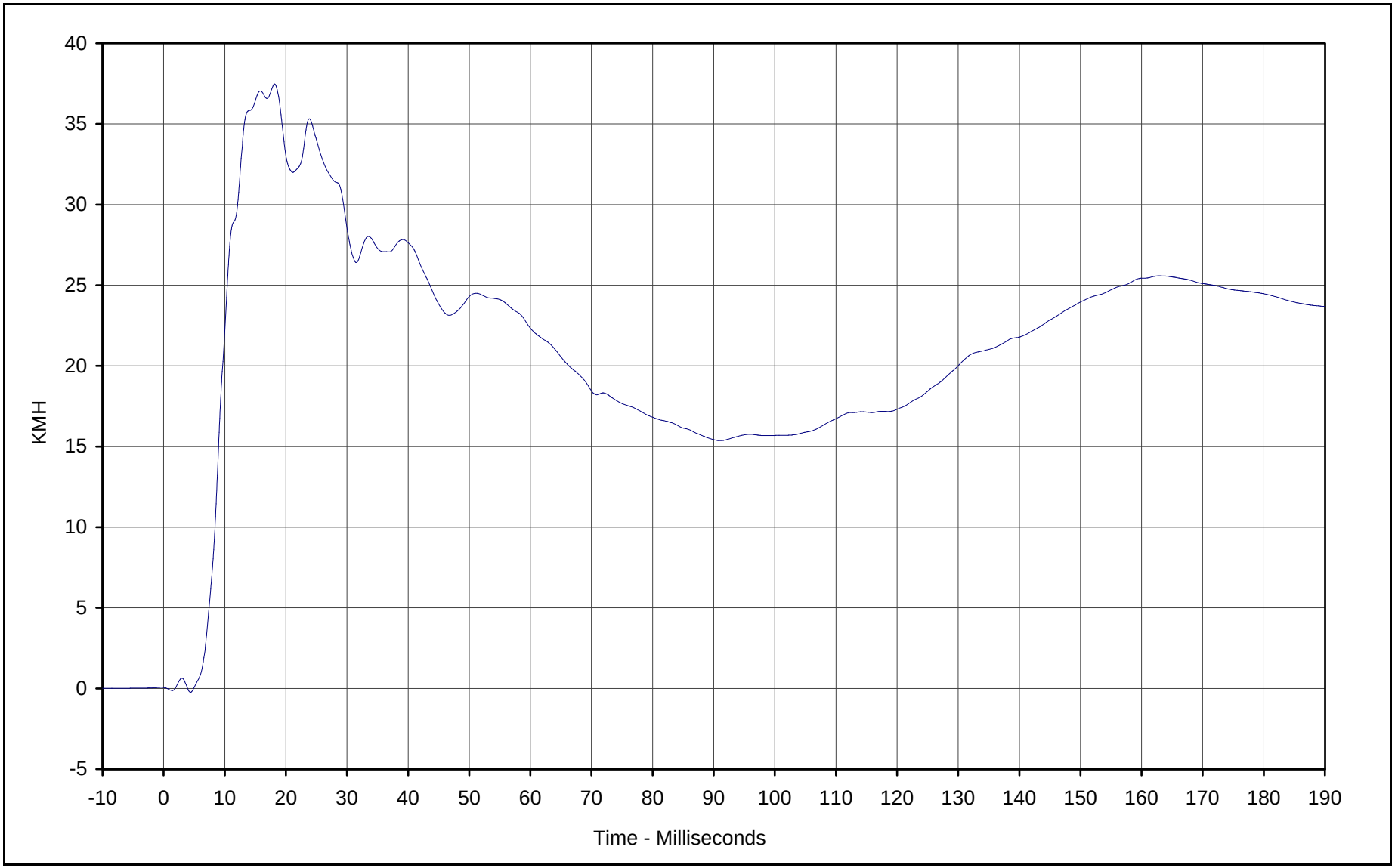
* Channel failed at 35.7 Msec.

KARCO Engineering



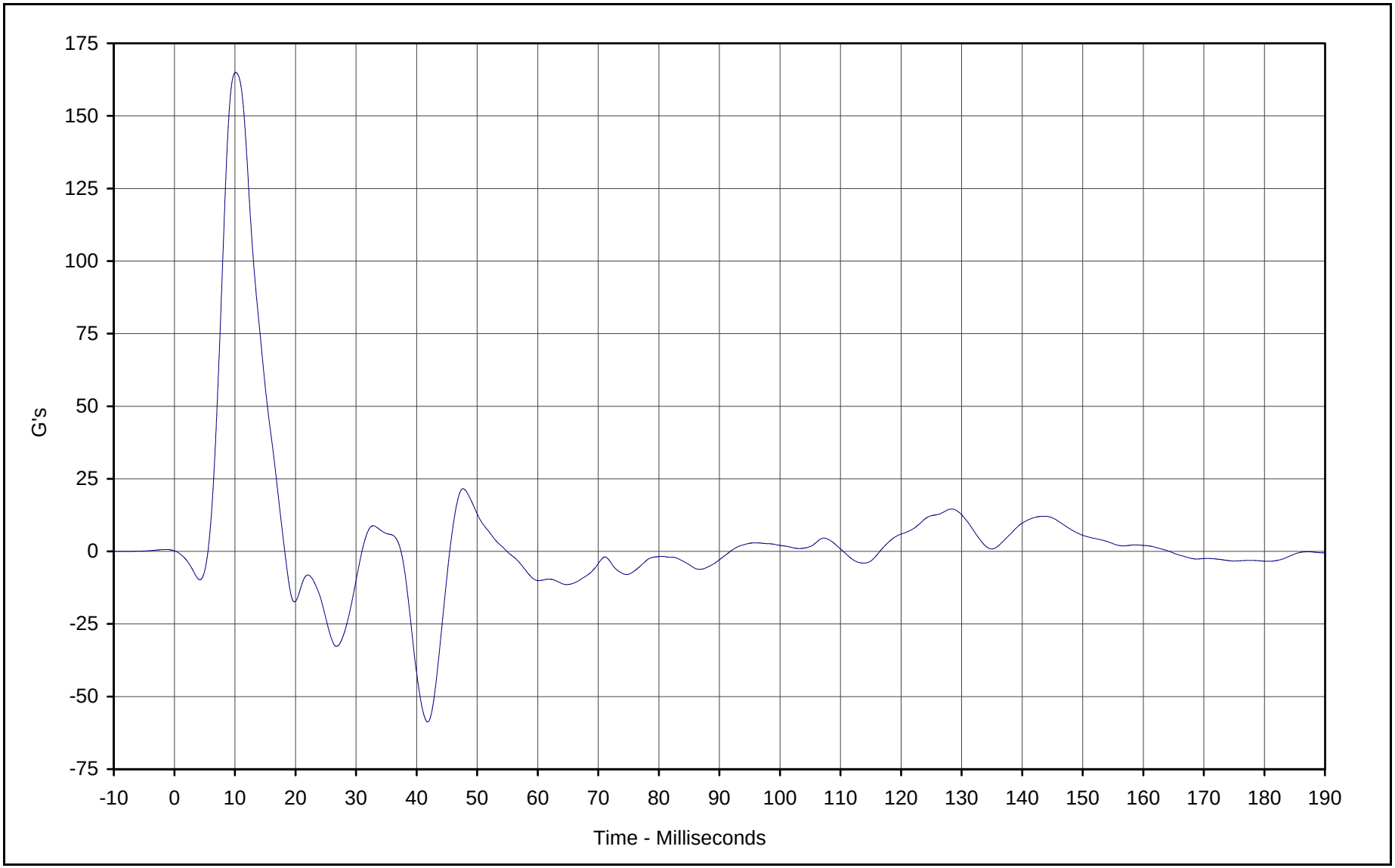
Curve Description:	Left B-Post Lower Y				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	172.5	at	9.2	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	-36.0	at	29.4	Milliseconds			
SAE Filter Class:	60						
Date of Test:	11/30/00						
Curve Number:	FIL-044						

KARCO Engineering



Curve Description:	Left B-Post Lower Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	37.5	at	18.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-0.2	at	4.4 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-044				

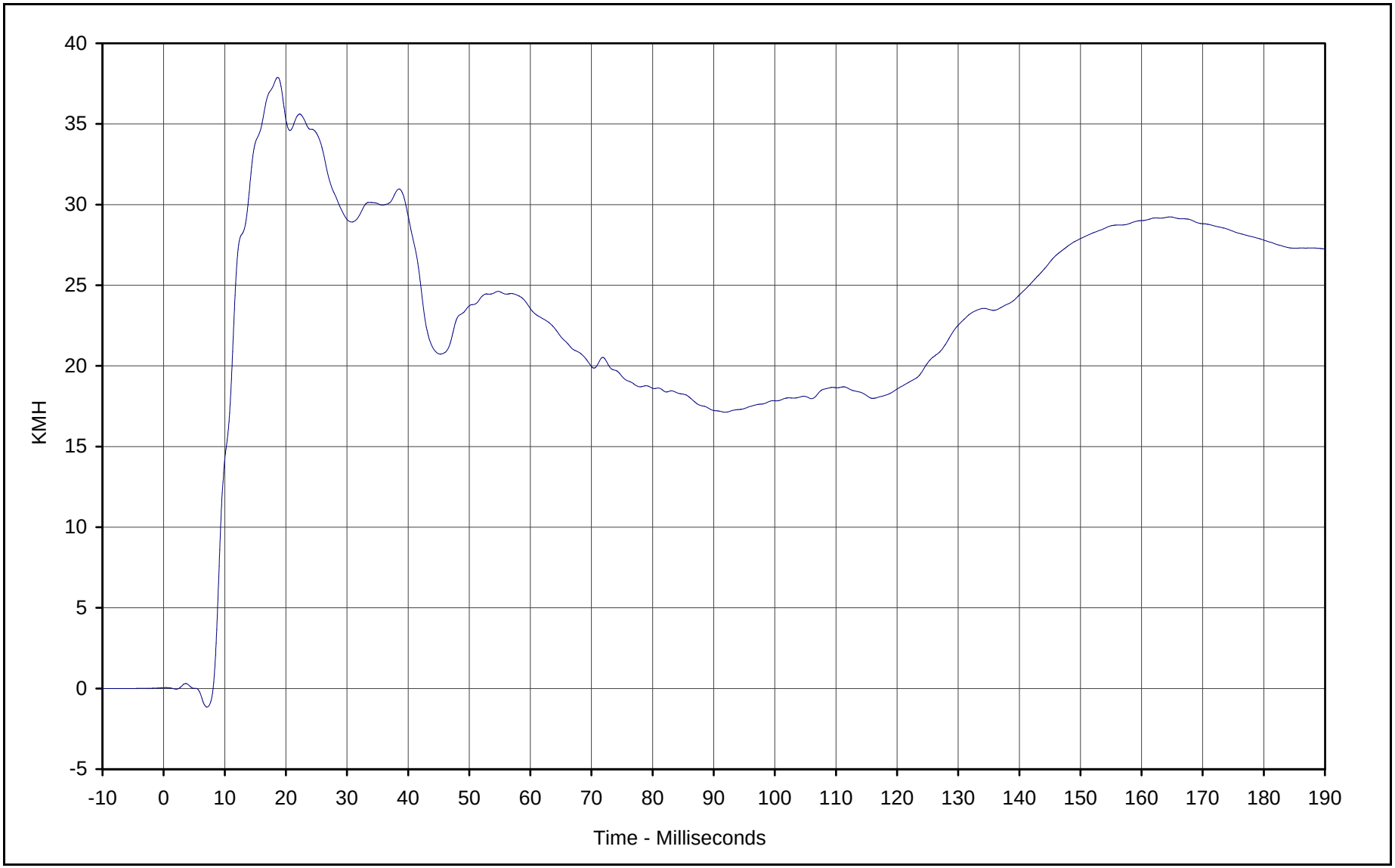
KARCO Engineering



Curve Description:	Left B-Post Middle Y				
Maximum Value:	165.0	at	10.1	Milliseconds	
Minimum Value:	-58.7	at	41.8	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-045				

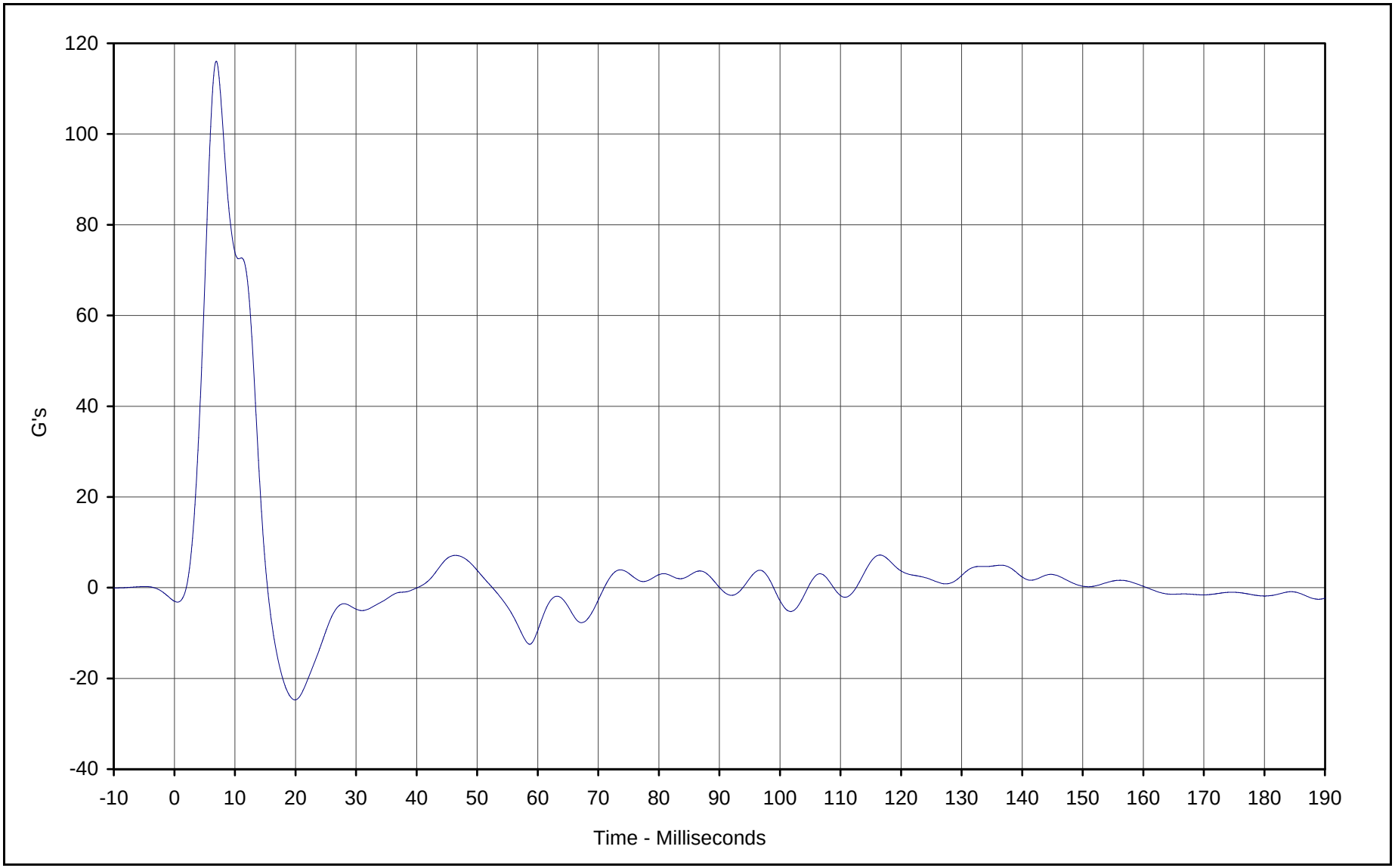
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



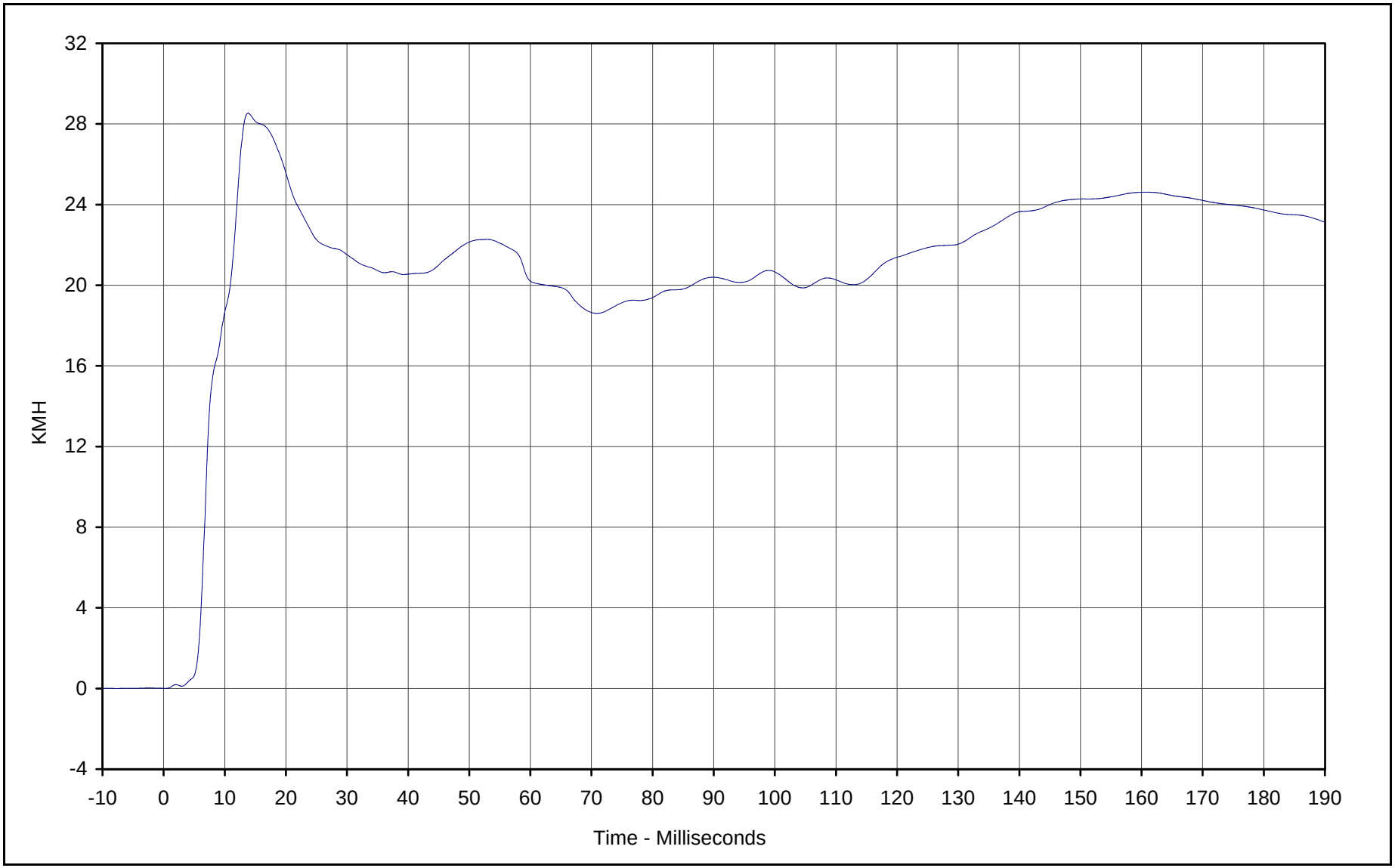
Curve Description:	Left B-Post Middle Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	37.9	at	18.7 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-1.2	at	7.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-045				

KARCO Engineering



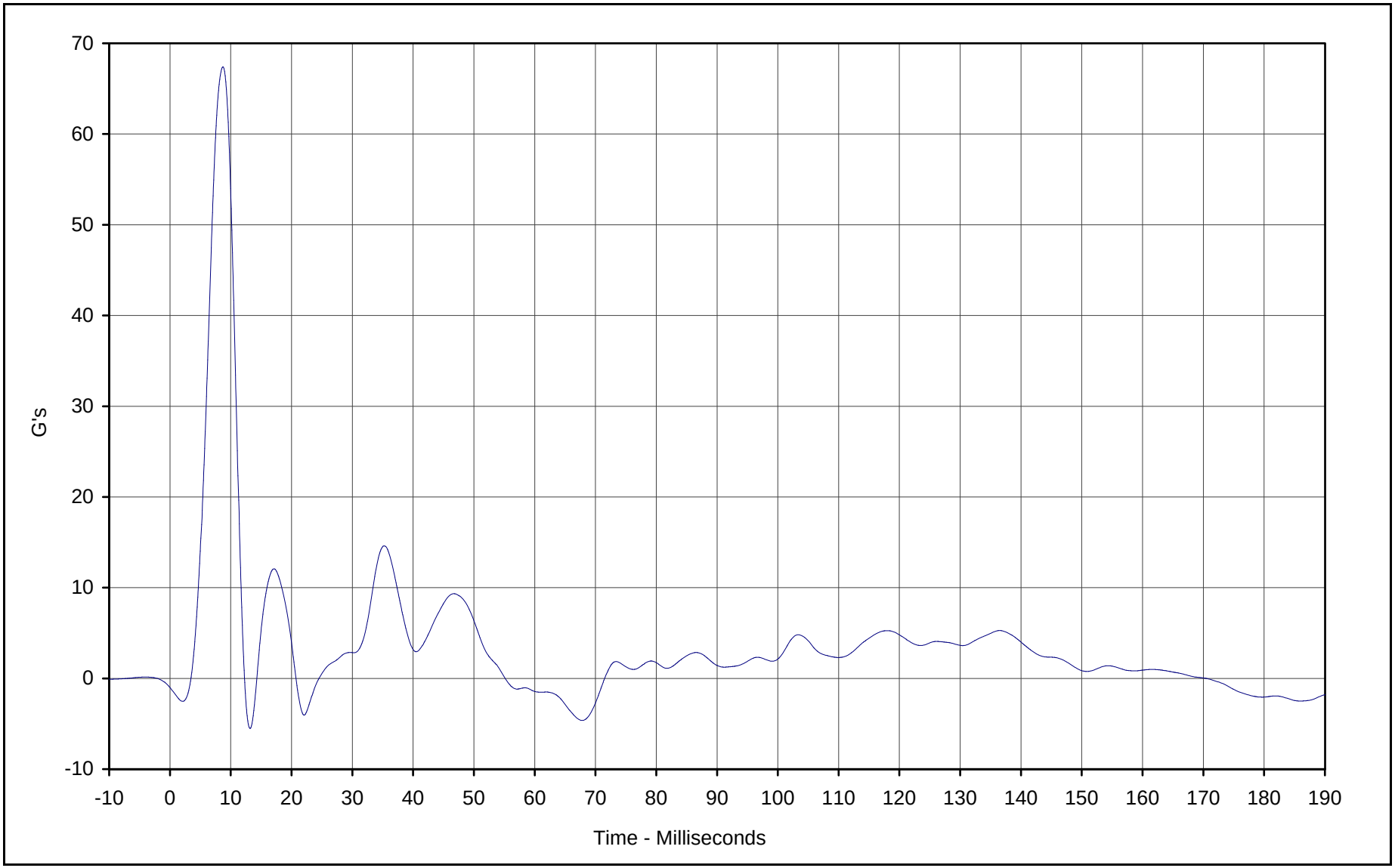
Curve Description:	Left A-Post Lower Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	116.1	at	6.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-24.7	at	19.9 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-046				

KARCO Engineering



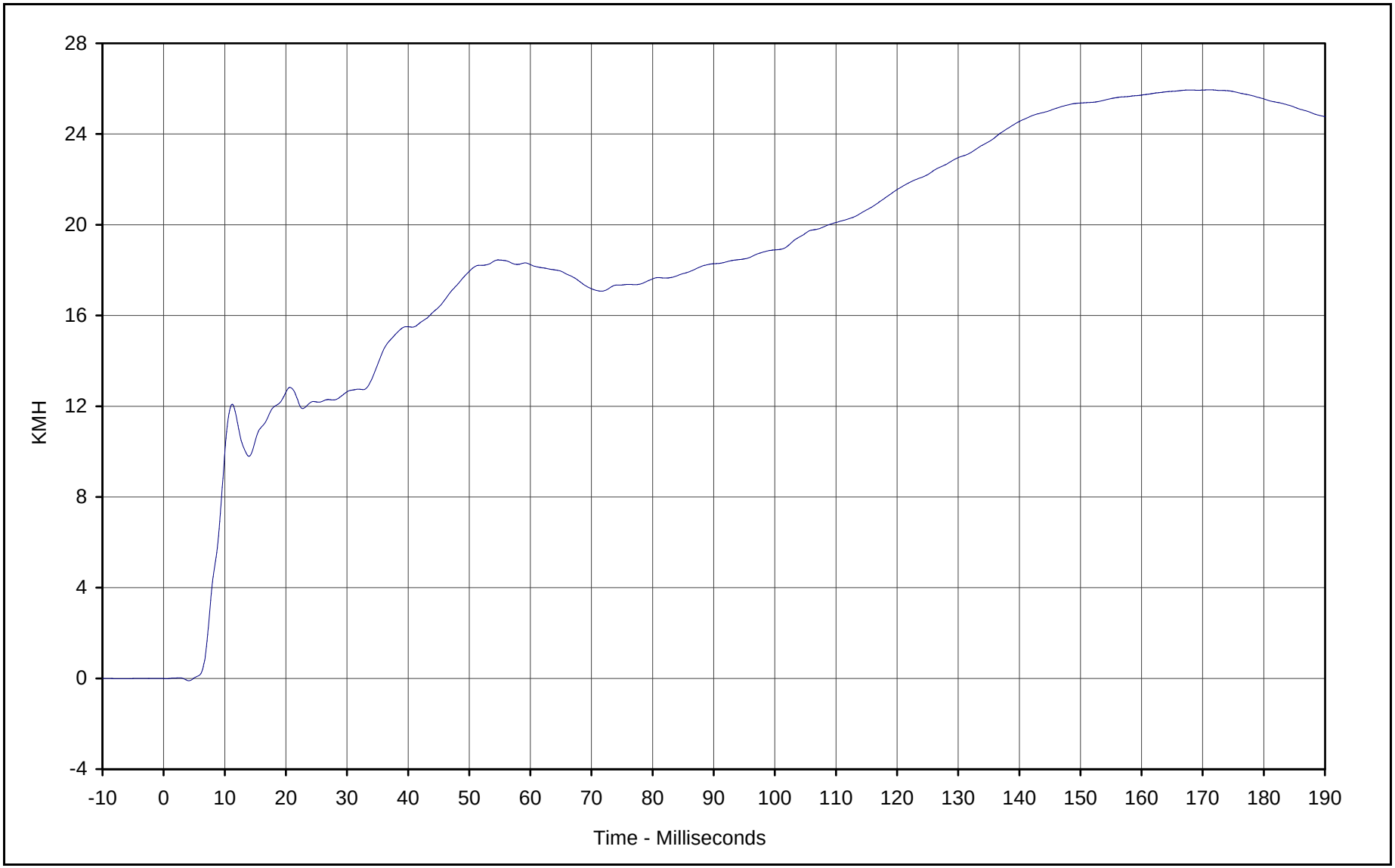
Curve Description:	Left A-Post Lower Y Velocity				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	28.5	at	13.8	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	0.0	at	0.3	Milliseconds			
SAE Filter Class:	180						
Date of Test:	11/30/00						
Curve Number:	IN1-046						

KARCO Engineering



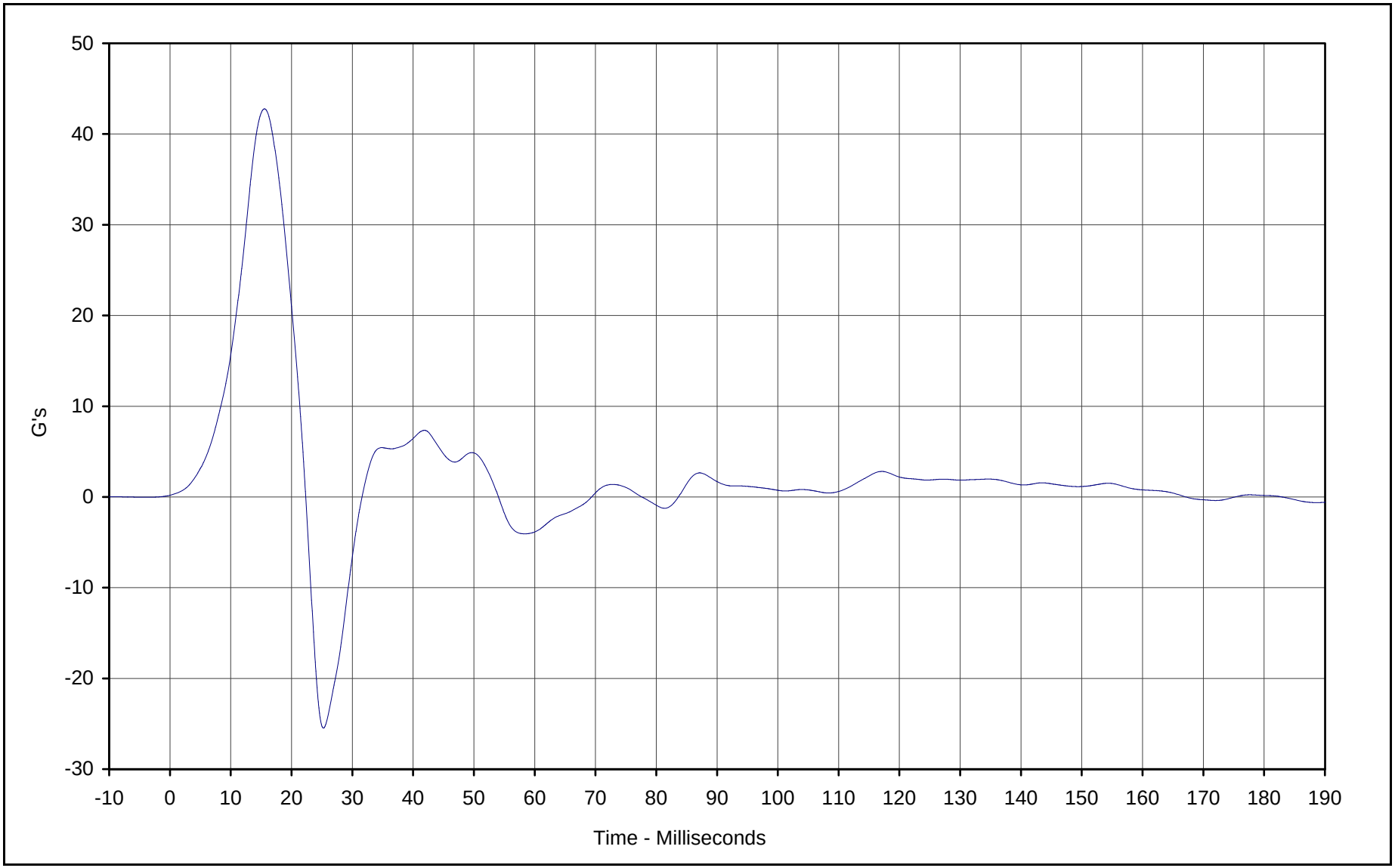
Curve Description:	Left A-Post Middle Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	67.4	at	8.7 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-5.5	at	13.2 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-047				

KARCO Engineering



Curve Description:	Left A-Post Middle Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	25.9	at	171.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-0.1	at	4.1 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-047				

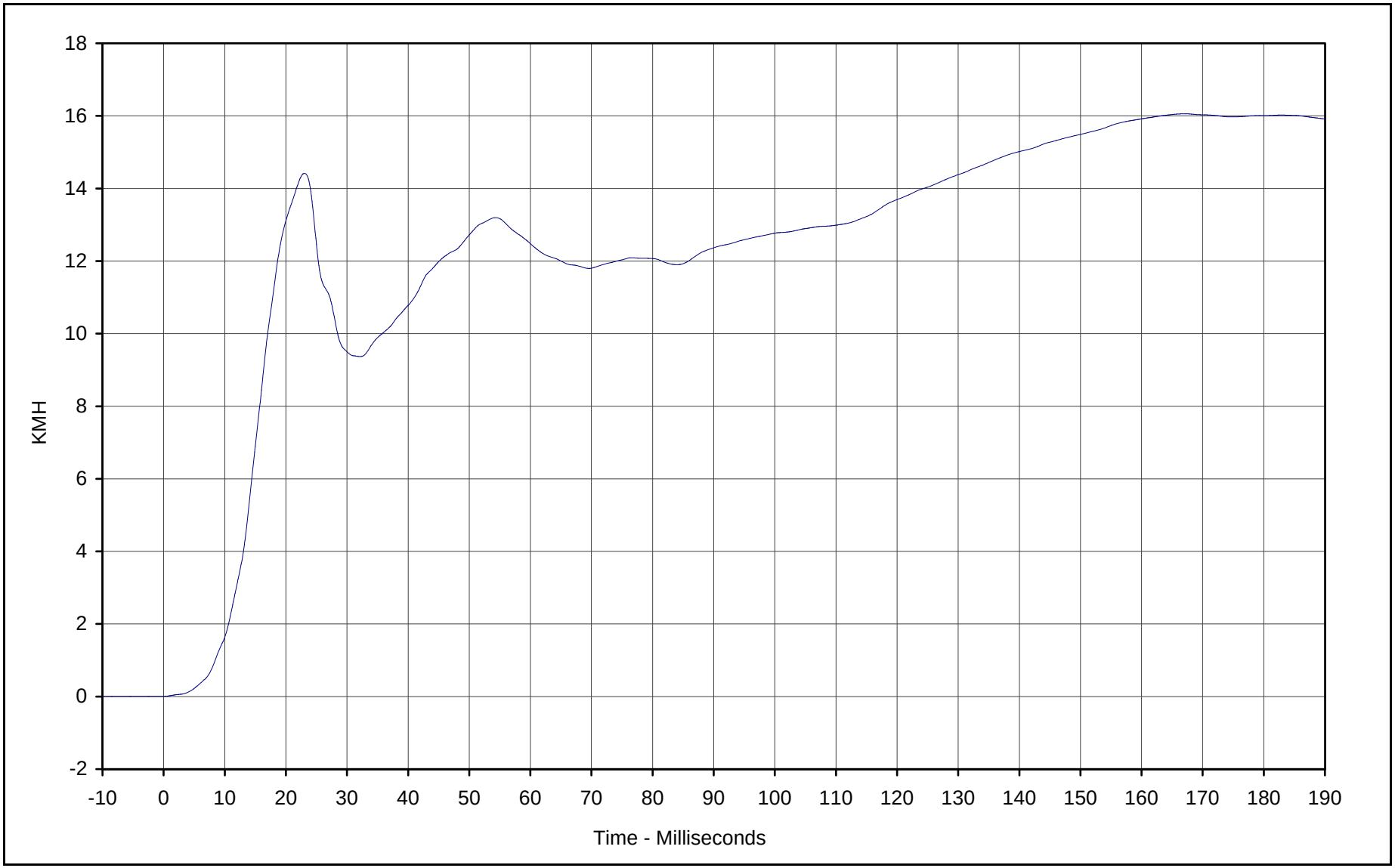
KARCO Engineering



Curve Description:	Left Front Seat Track Y				
Maximum Value:	42.8	at	15.6	Milliseconds	
Minimum Value:	-25.5	at	25.3	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-048				

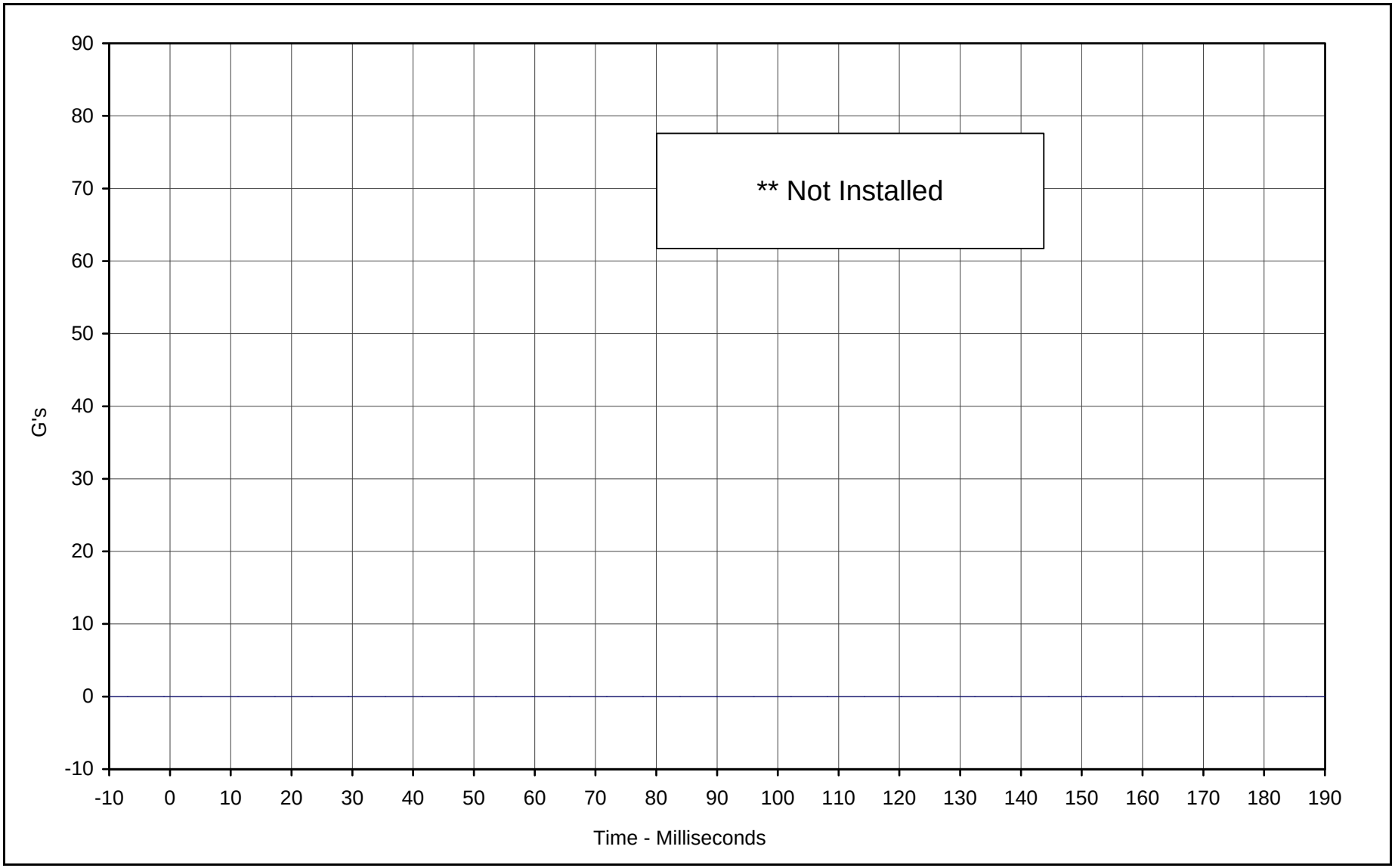
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



Curve Description:	Left Front Seat Track Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	16.1	at	167.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.0	at	0.0 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-048				

KARCO Engineering



Curve Description: Left Rear Seat Structure Y **

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 11/30/00

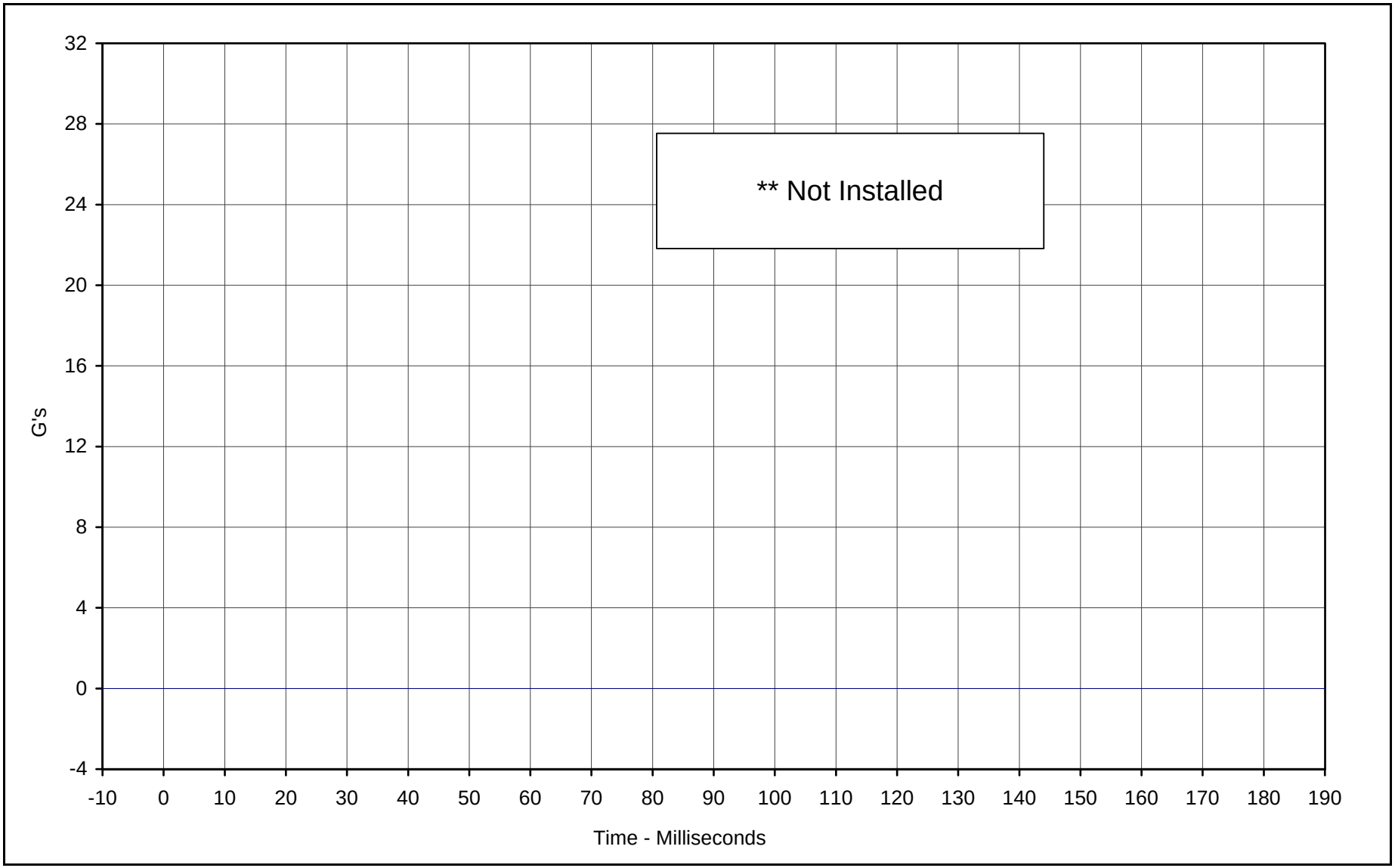
Curve Number: FIL-049

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

** Not Installed

KARCO Engineering



Curve Description: Left Rear Seat Structure Y Velocity **

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 11/30/00

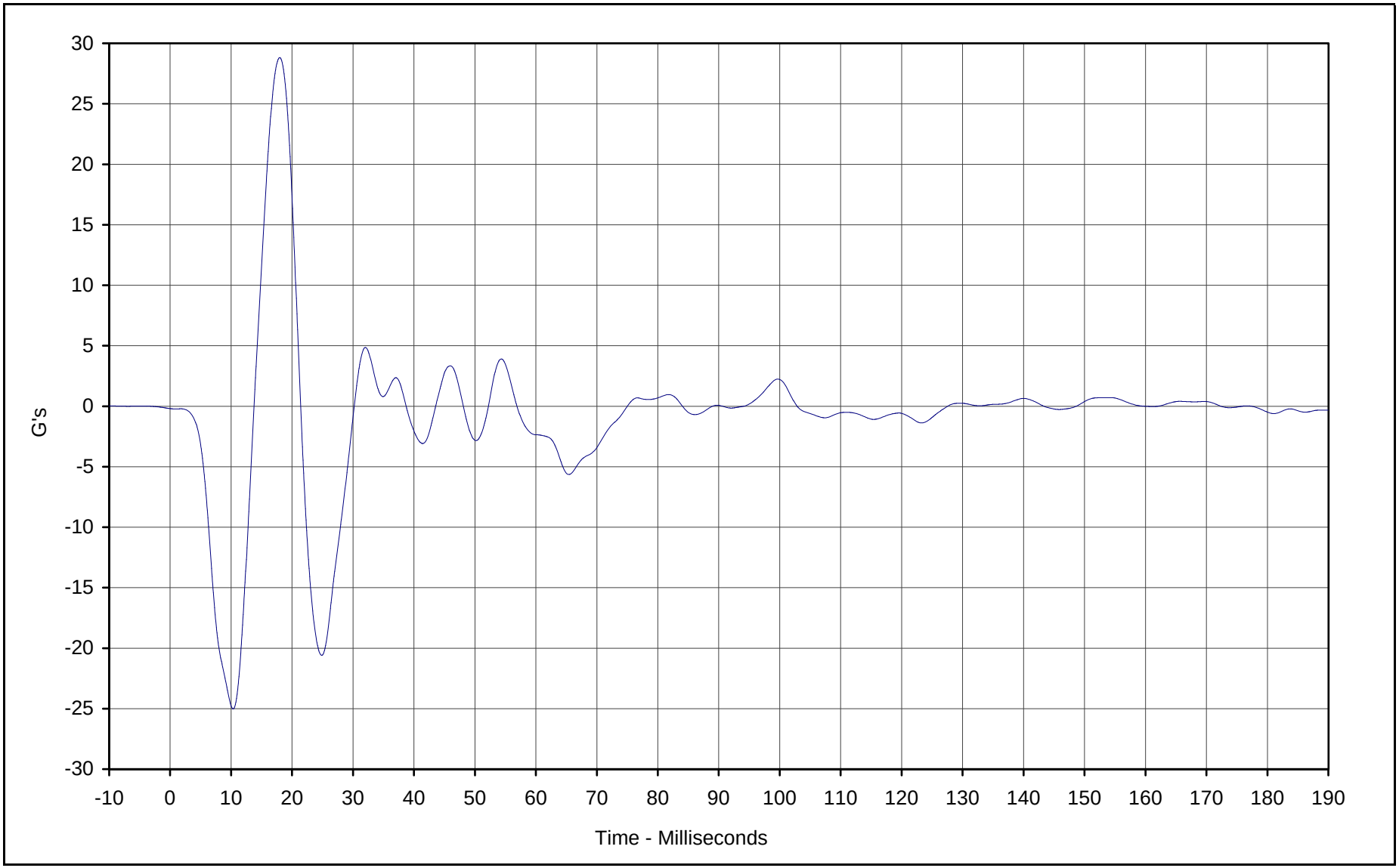
Curve Number: IN1-049

Test Program: 55/28 km/h Side Impact NCAP No.: M10204

Test Vehicle: 2001 Ford Explorer XLT 4WD SUV

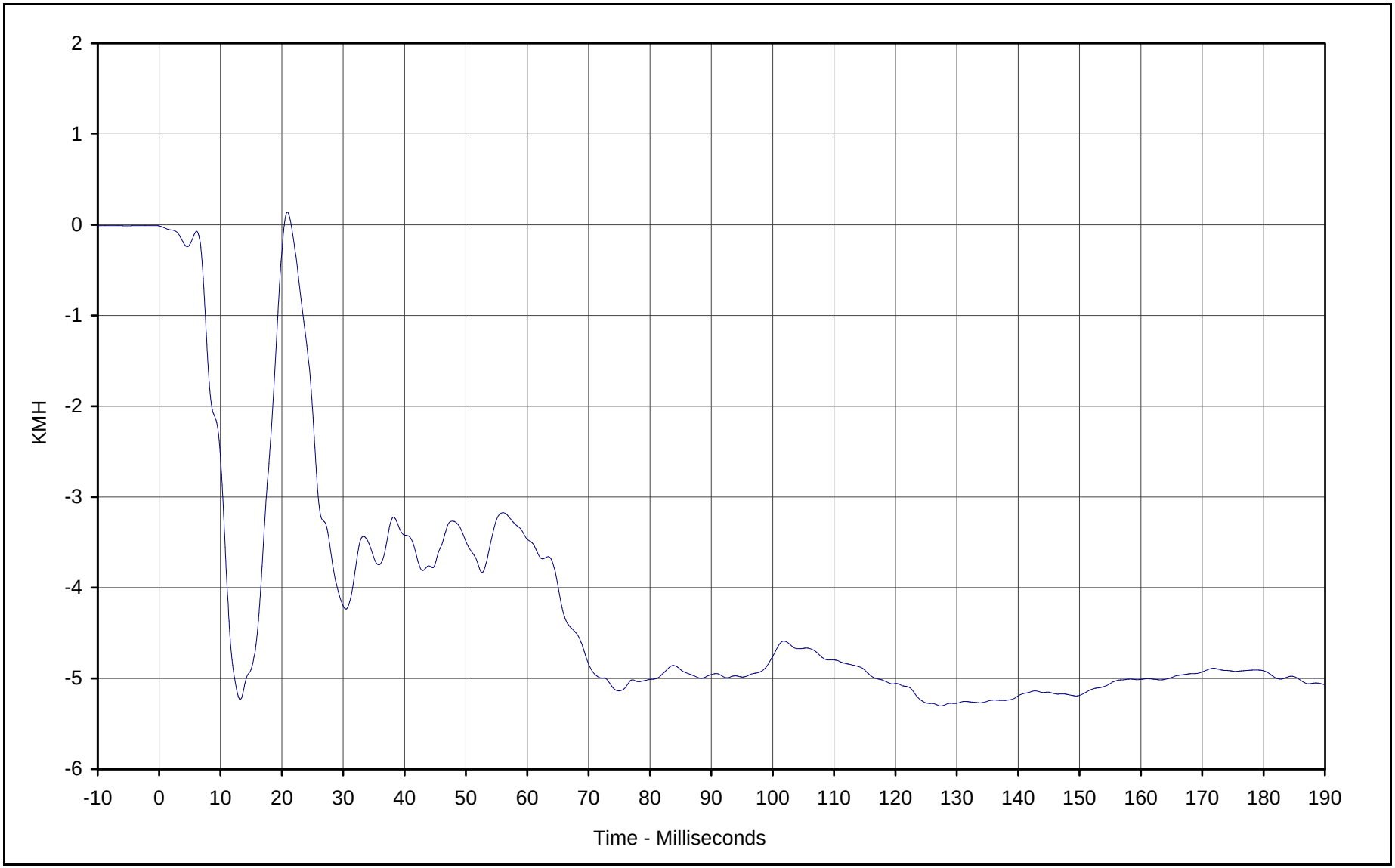
** Not Installed

KARCO Engineering



Curve Description:	Vehicle CG X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.8	at	18.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-25.0	at	10.3 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-050				

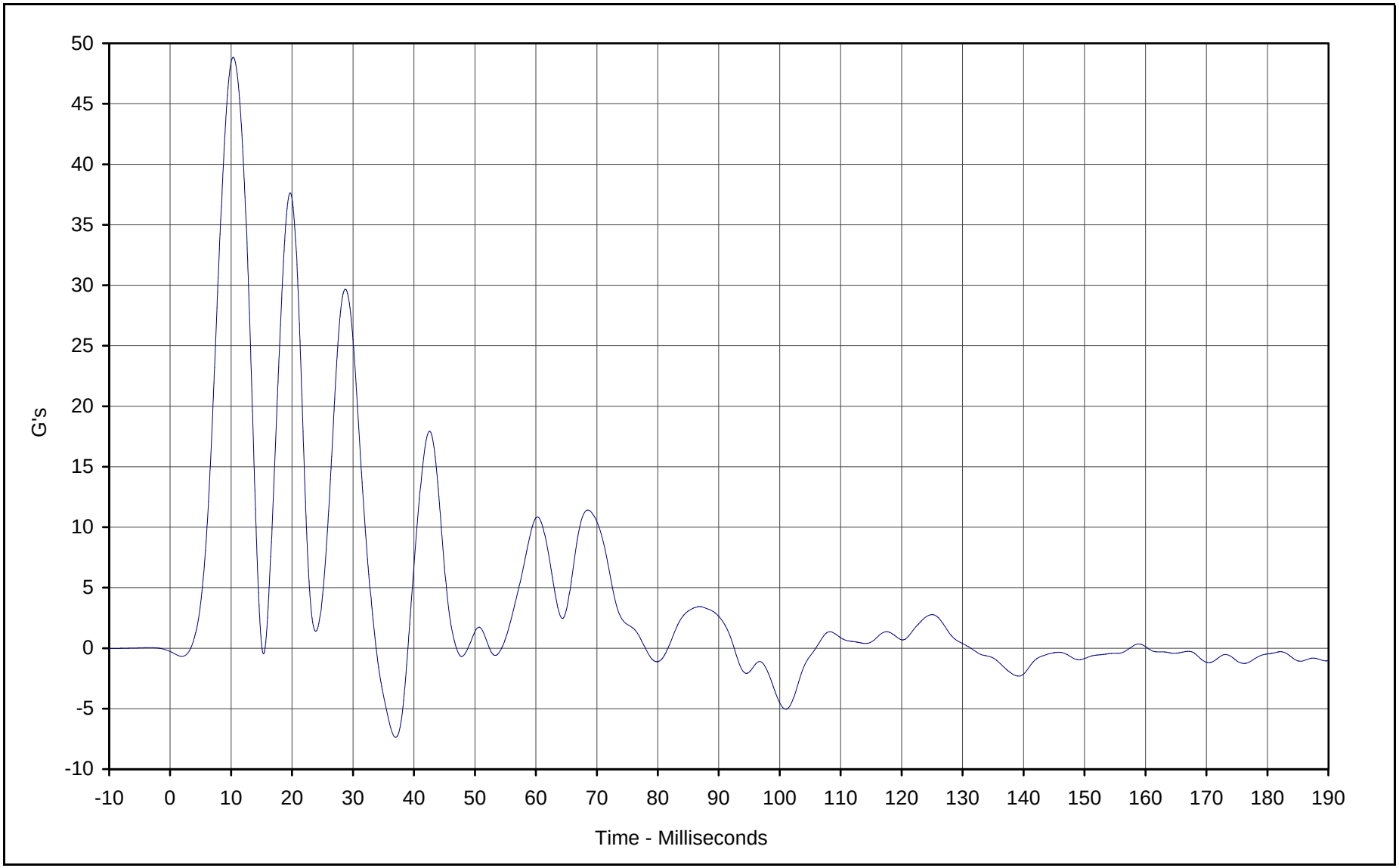
KARCO Engineering



Curve Description:	Vehicle CG X Velocity				
Maximum Value:	0.1	at	20.9	Milliseconds	
Minimum Value:	-5.3	at	127.4	Milliseconds	
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-050				

Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

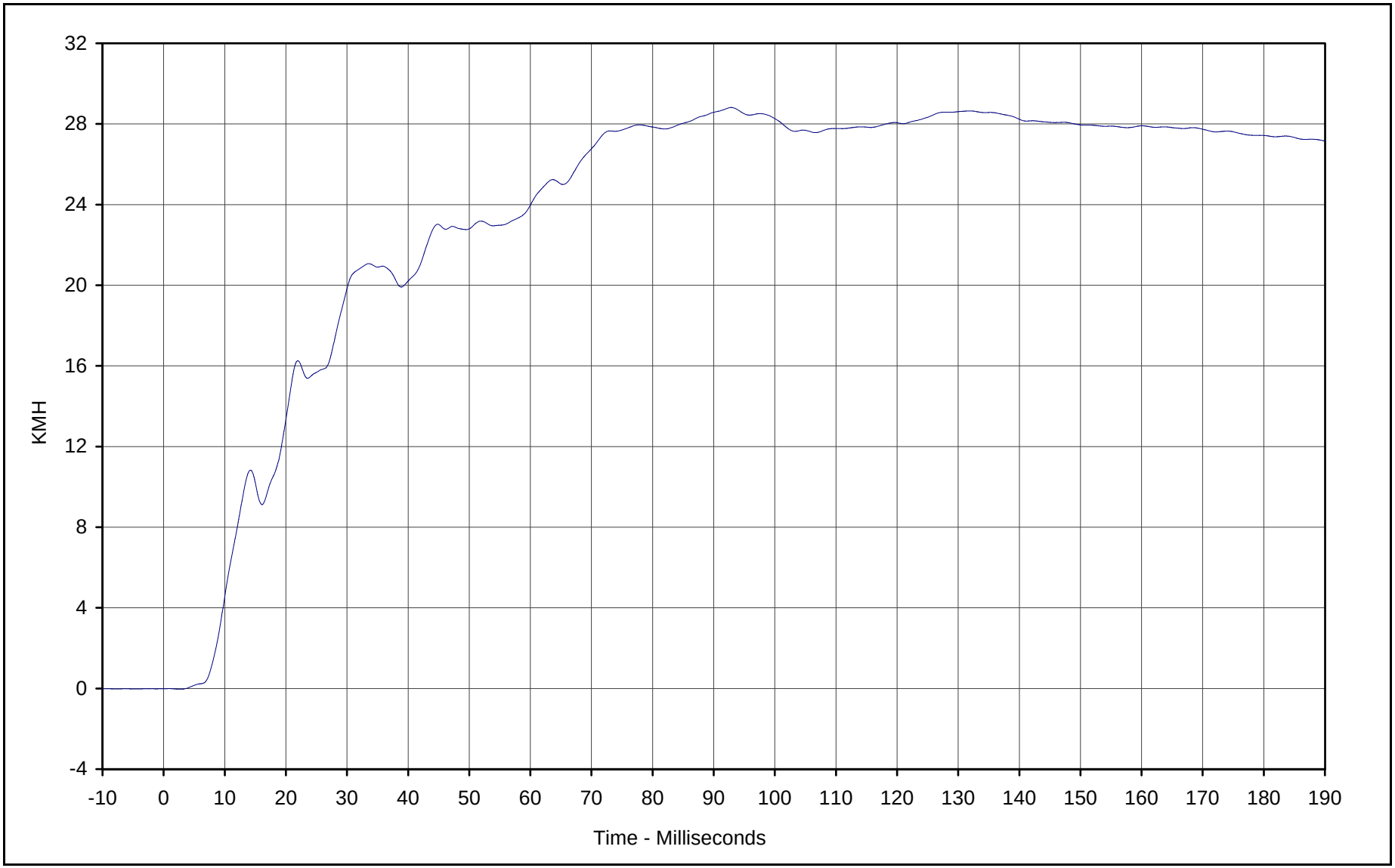
KARCO Engineering



Curve Description:	Vehicle CG Y				
Maximum Value:	48.8	at	10.3	Milliseconds	
Minimum Value:	-7.4	at	37.0	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-051				

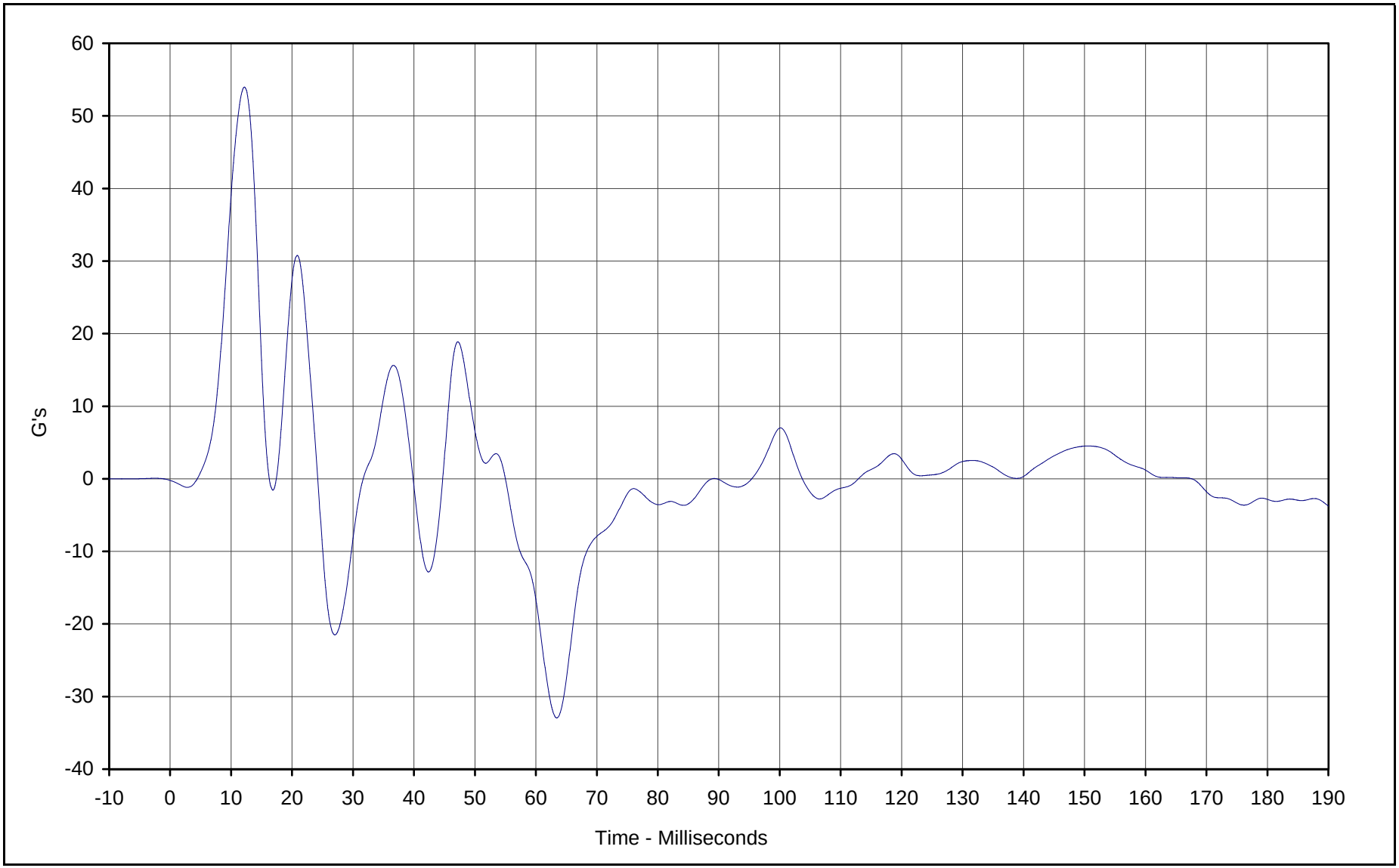
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



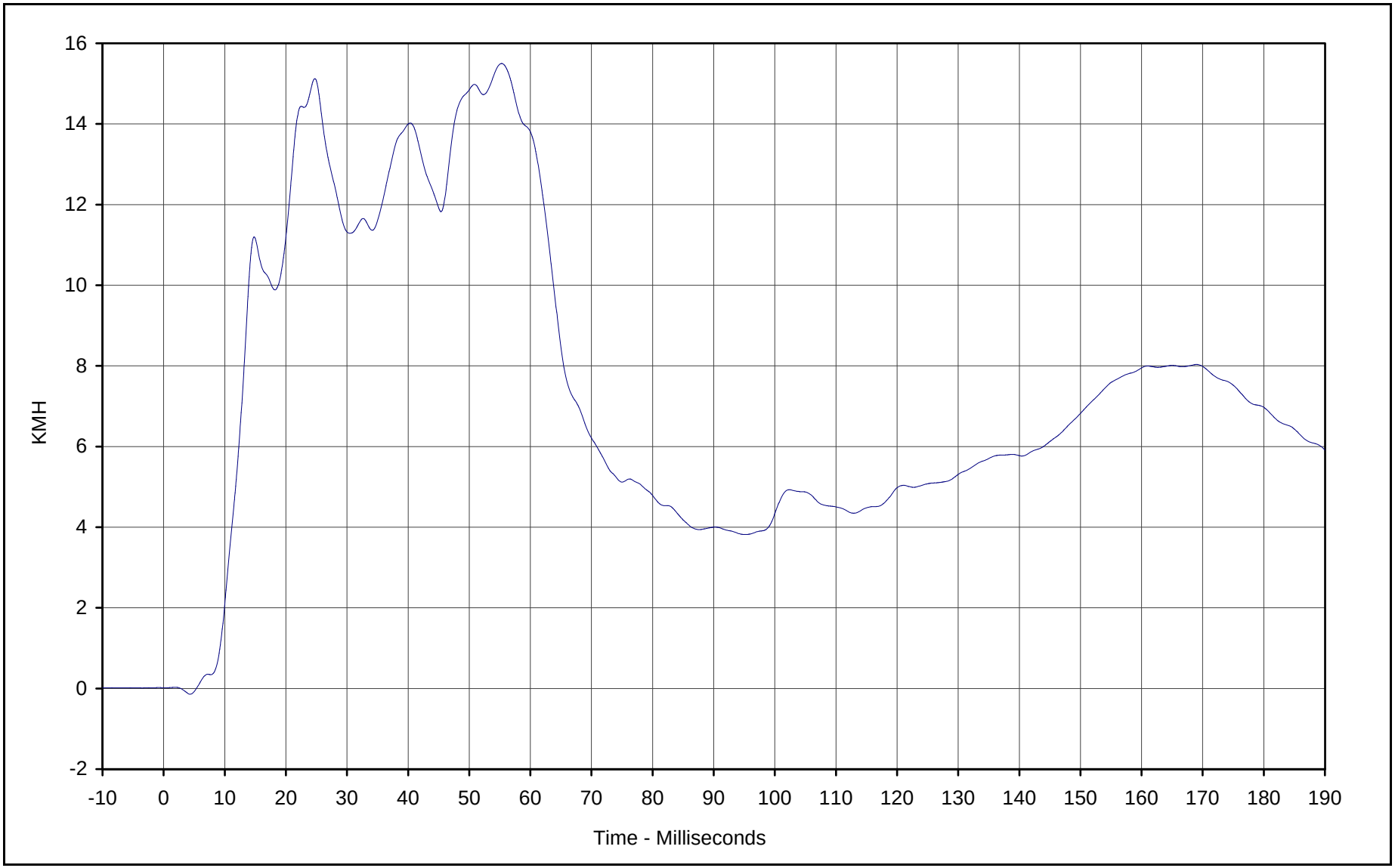
Curve Description:	Vehicle CG Y Velocity				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	28.8	at	92.9	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	0.0	at	2.7	Milliseconds			
SAE Filter Class:	180						
Date of Test:	11/30/00						
Curve Number:	IN1-051						

KARCO Engineering



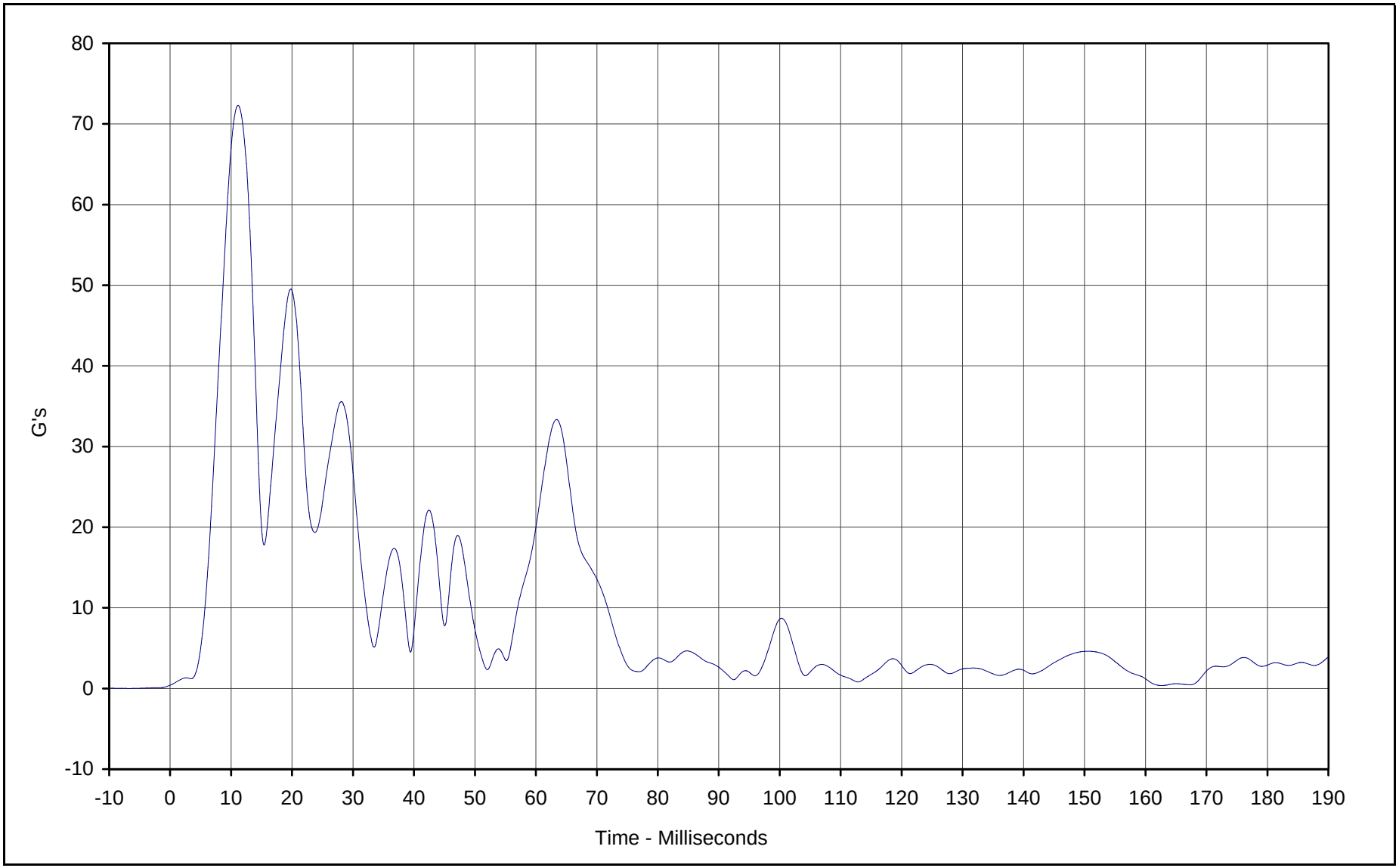
Curve Description:	Vehicle CG Z				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	54.0	at	12.2	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	-32.9	at	63.4	Milliseconds			
SAE Filter Class:	60						
Date of Test:	11/30/00						
Curve Number:	FIL-052						

KARCO Engineering



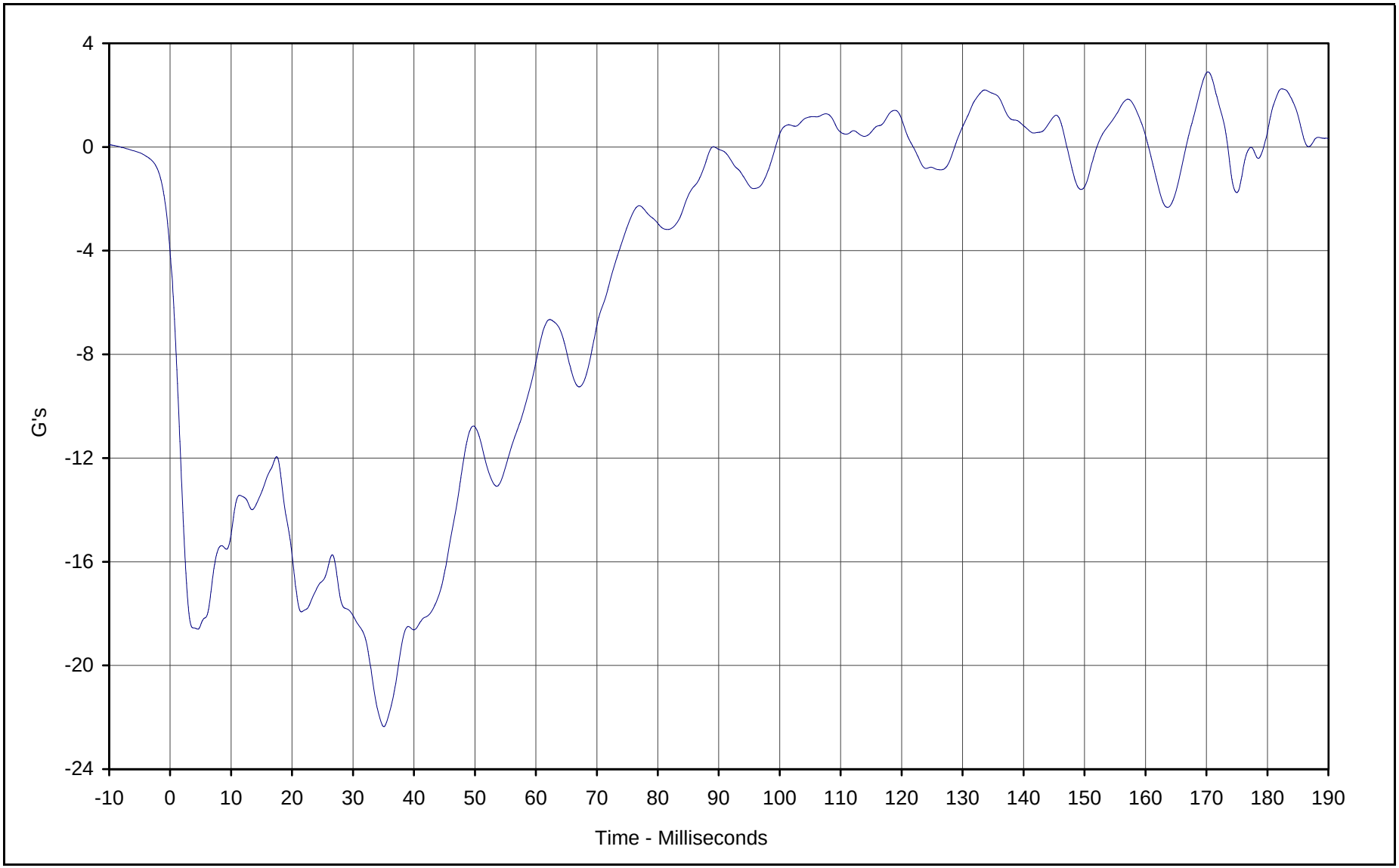
Curve Description:	Vehicle CG Z Velocity				Test Program:	55/28 km/h Side Impact NCAP No.: M10204	
Maximum Value:	15.5	at	55.3	Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV	
Minimum Value:	-0.1	at	4.3	Milliseconds			
SAE Filter Class:	180						
Date of Test:	11/30/00						
Curve Number:	IN1-052						

KARCO Engineering



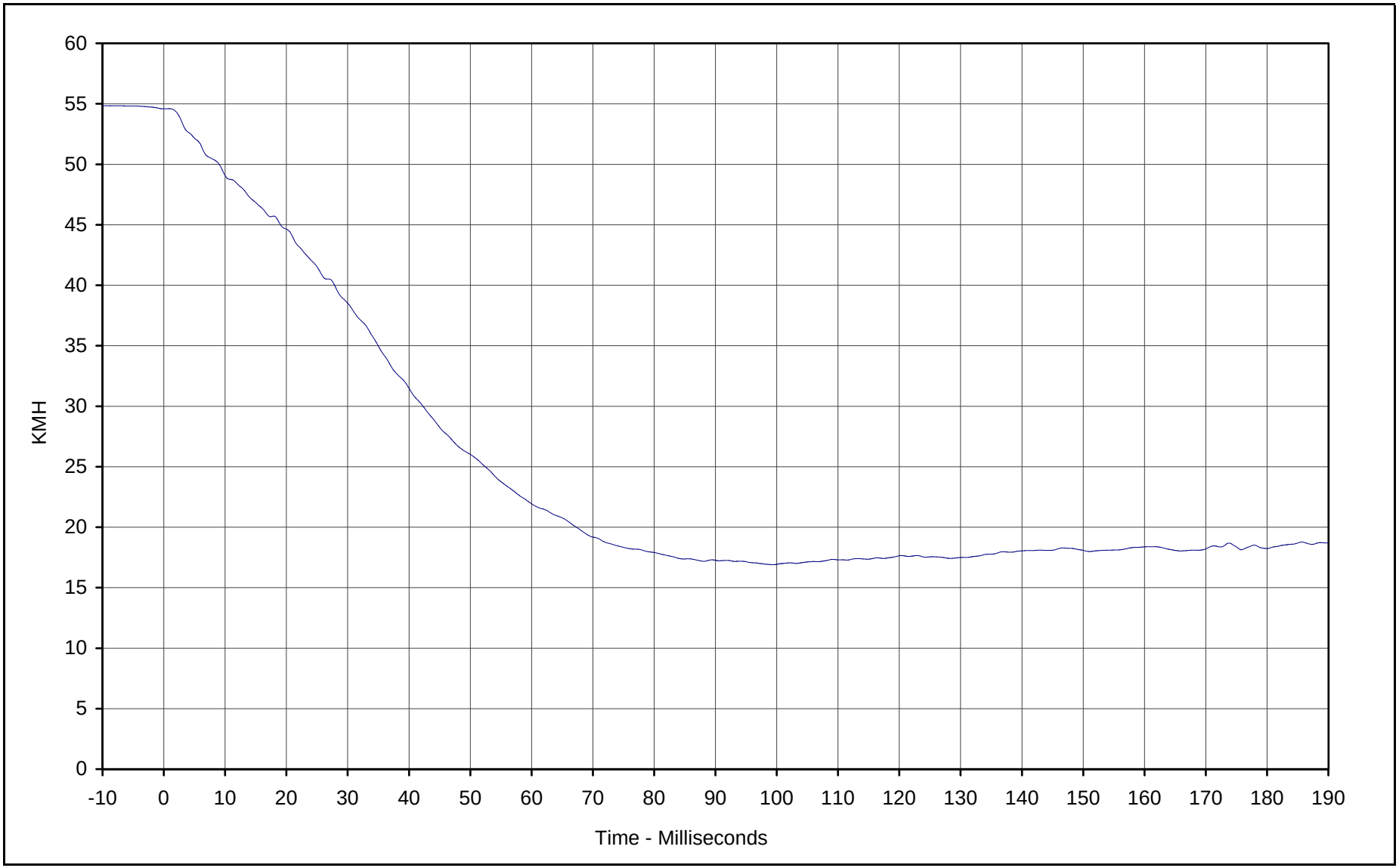
Curve Description:	Vehicle CG Resultant			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	72.3	at	11.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.4	at	162.7 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	RES-050				

KARCO Engineering



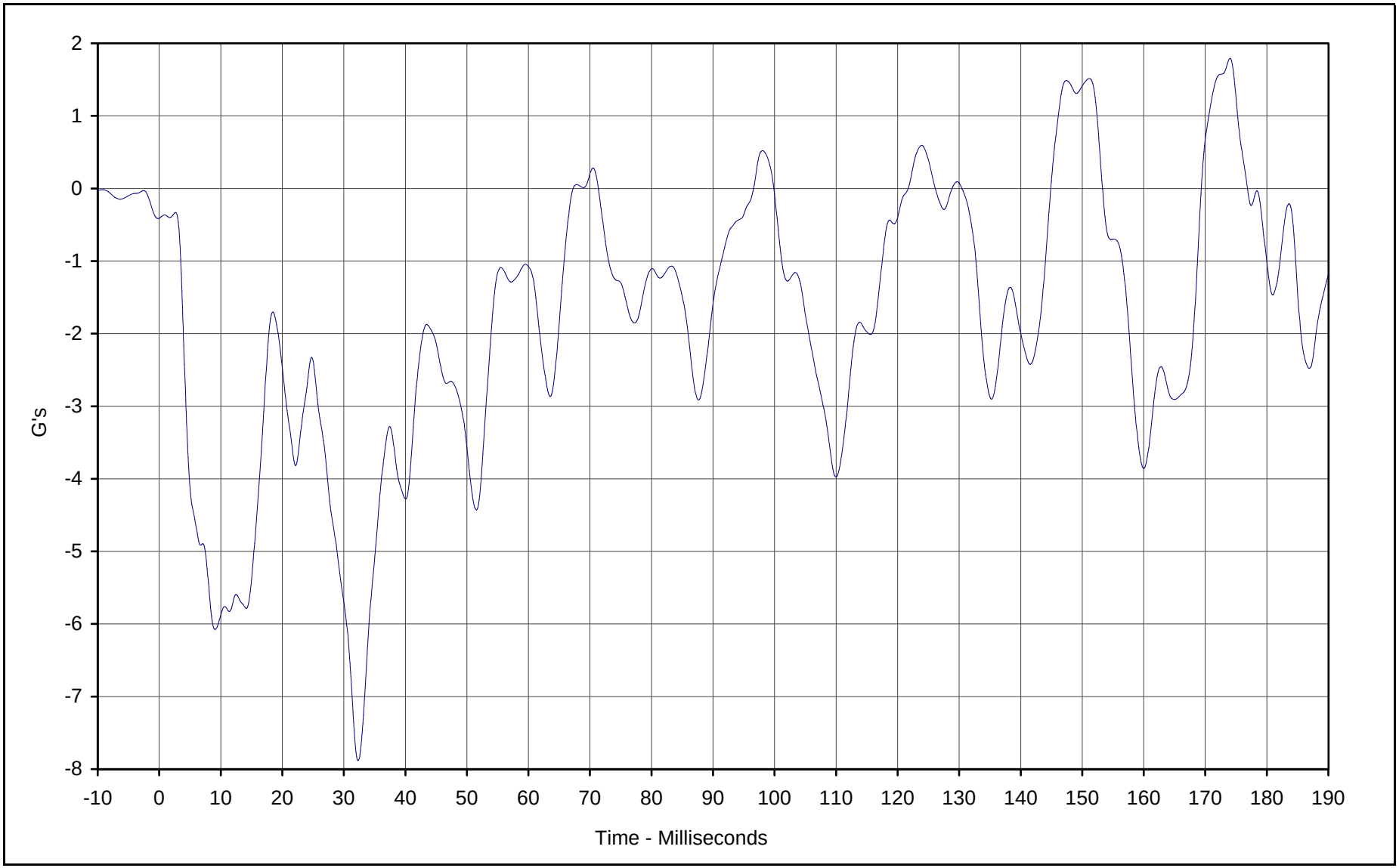
Curve Description:	MDB CG X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	2.9	at	170.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-22.4	at	35.1 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-053				

KARCO Engineering



Curve Description:	MDB CG X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	54.6	at	0.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	16.9	at	99.3 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-053				

KARCO Engineering

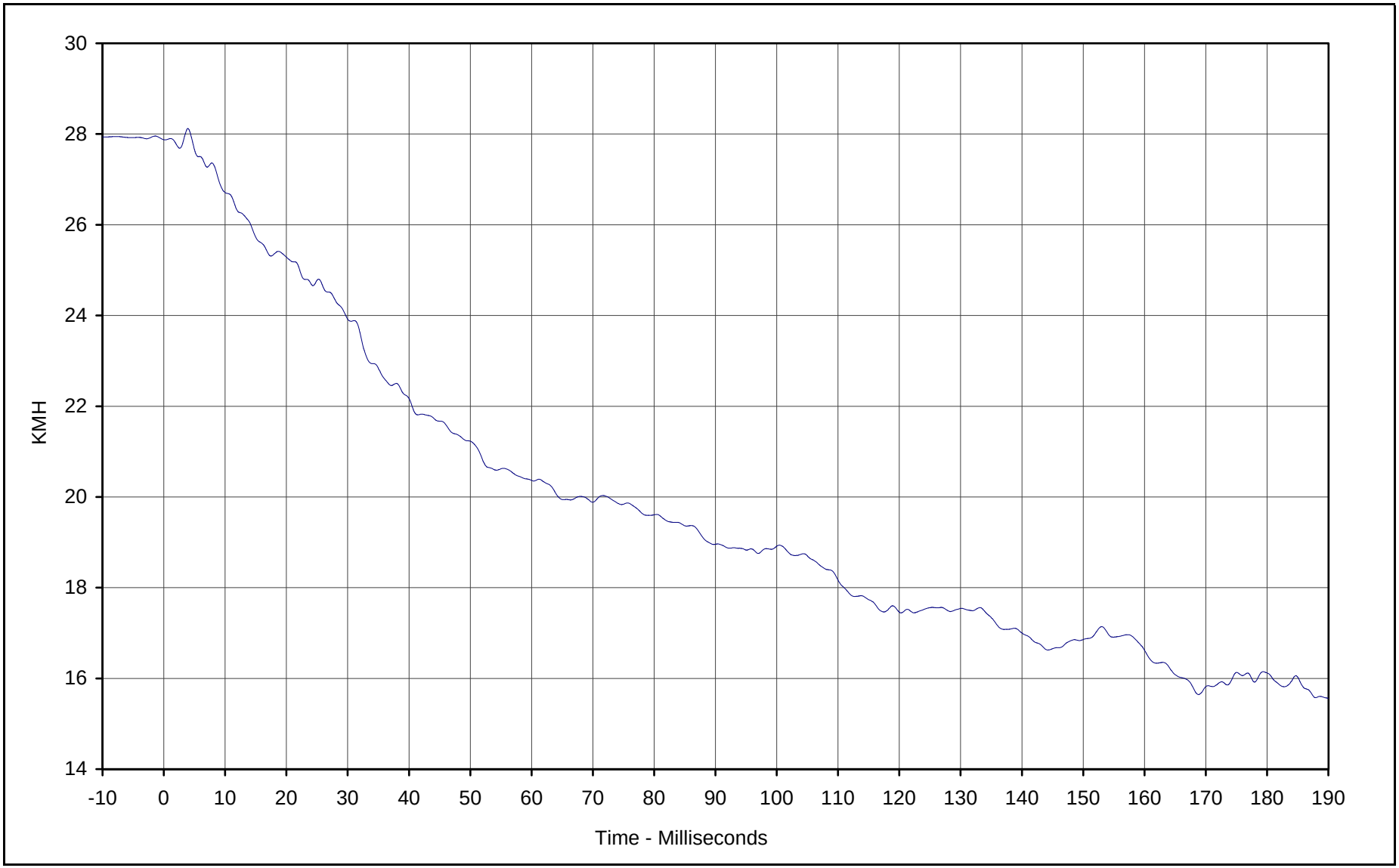


Curve Description:	MDB CG Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	1.8	at	174.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-7.9	at	32.3 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-054				

KARCO Engineering

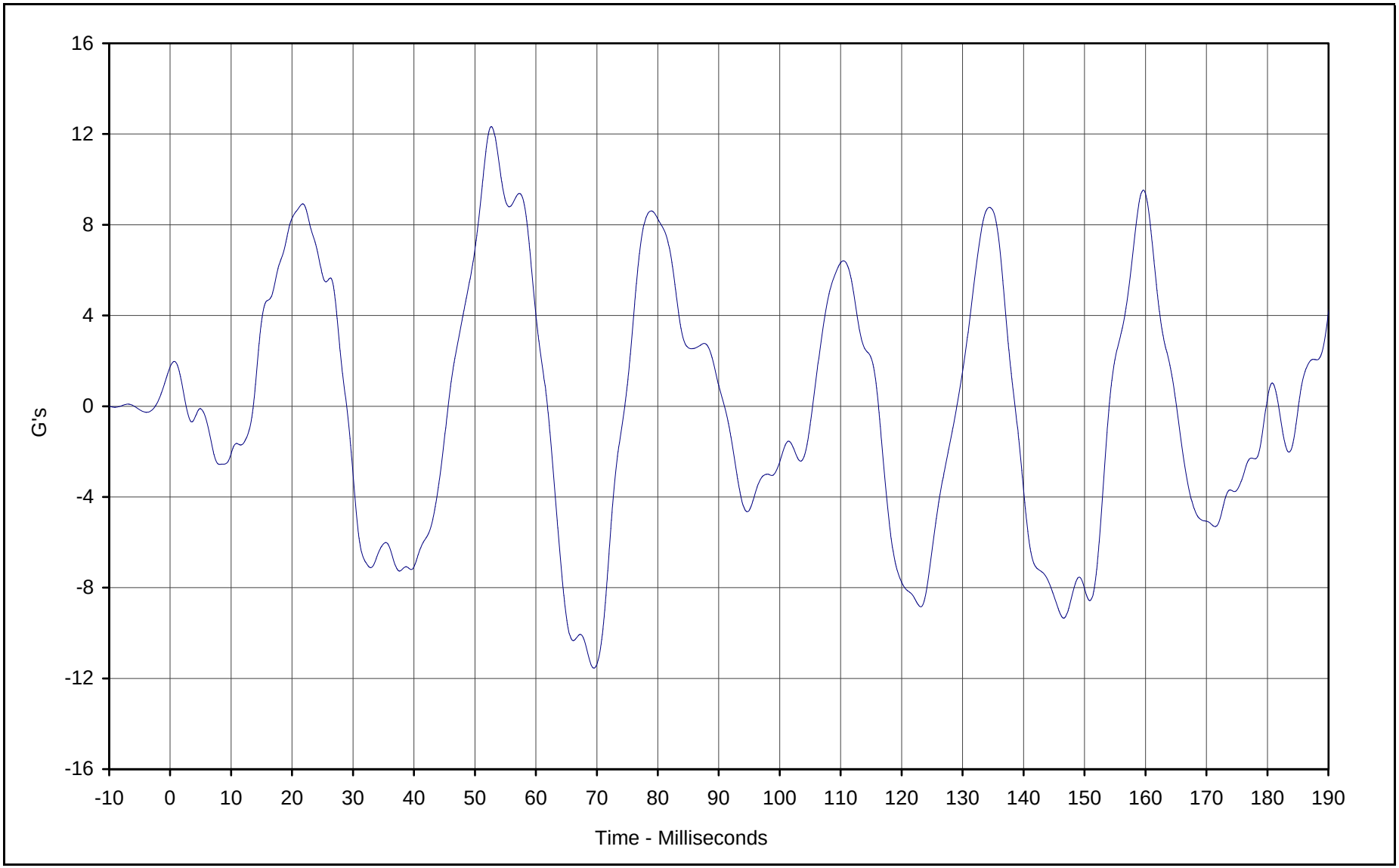
B-109

KAR21003-02



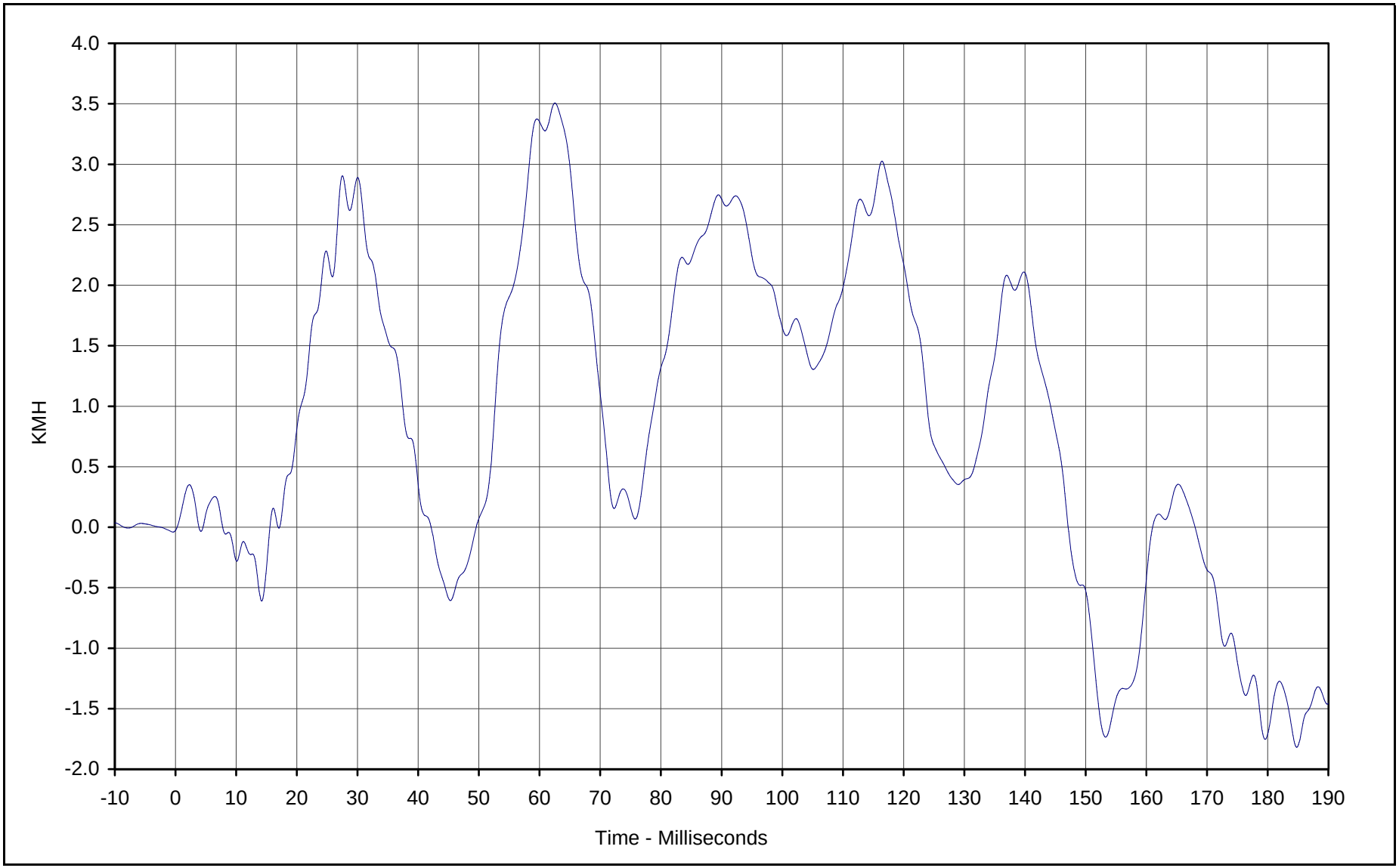
Curve Description:	MDB CG Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.1	at	3.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	15.6	at	189.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-054				

KARCO Engineering



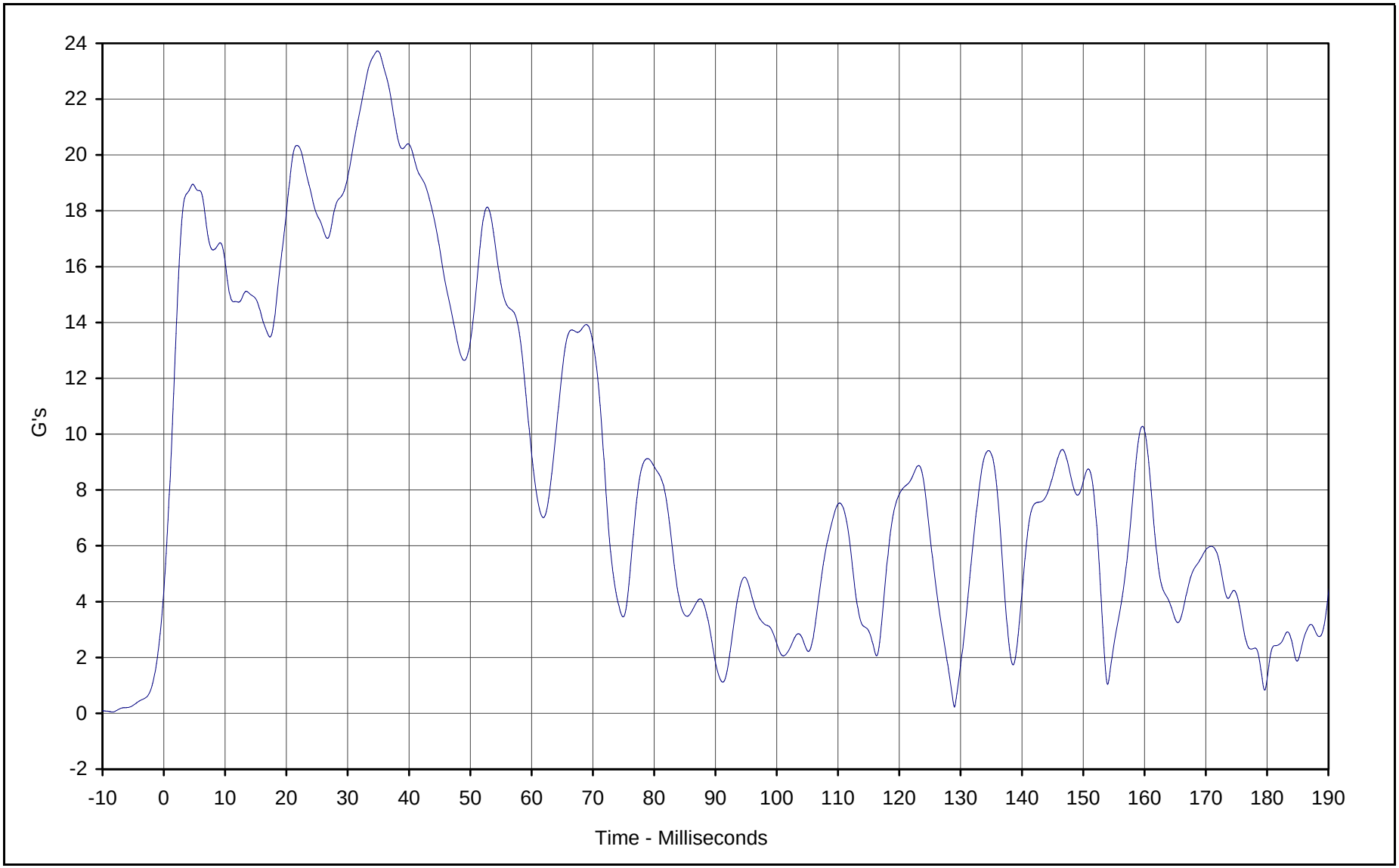
Curve Description:	MDB CG Z			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	12.3	at	52.7 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-11.5	at	69.5 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-055				

KARCO Engineering



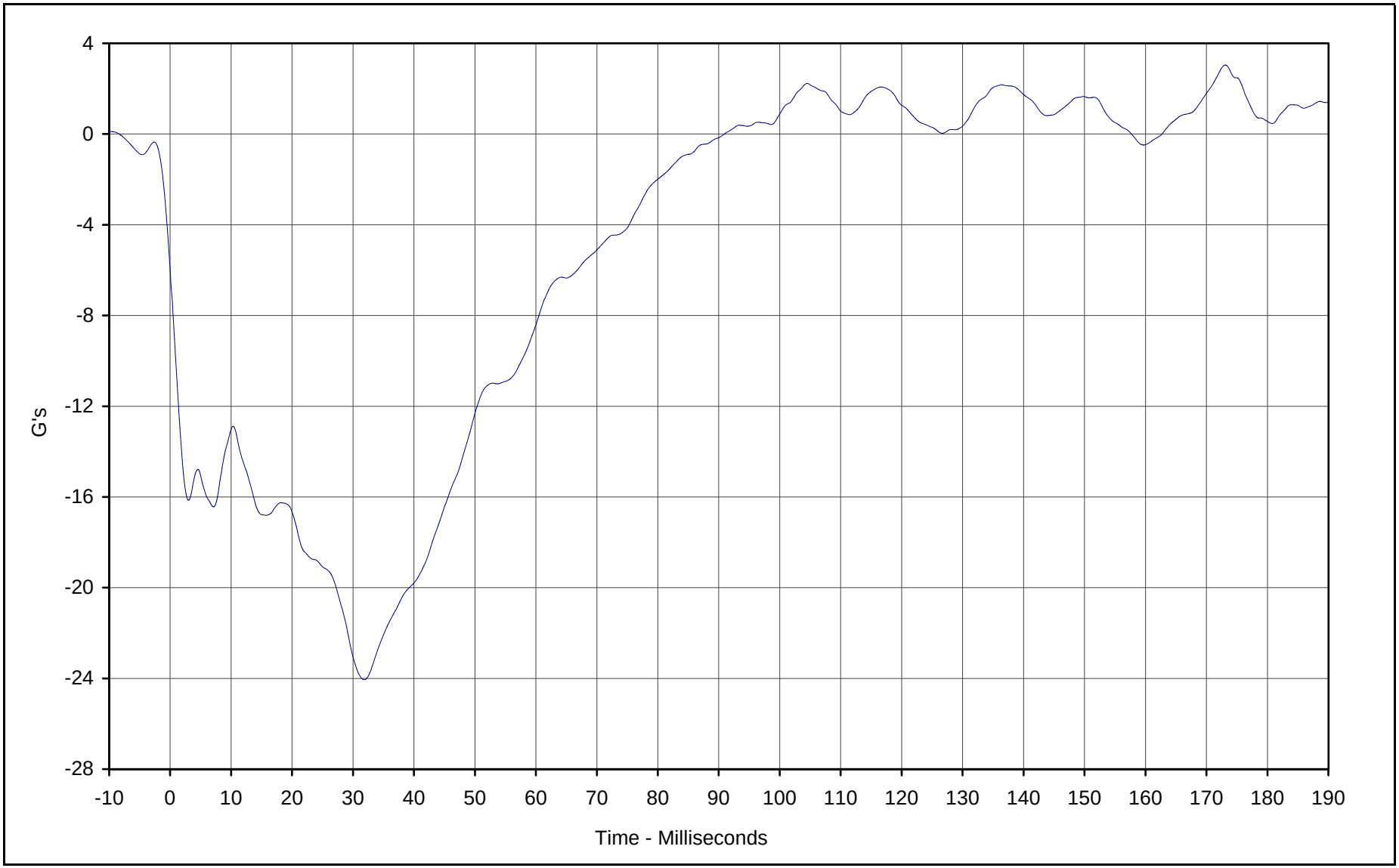
Curve Description:	MDB CG Z Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	3.5	at	62.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-1.8	at	184.8 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-055				

KARCO Engineering



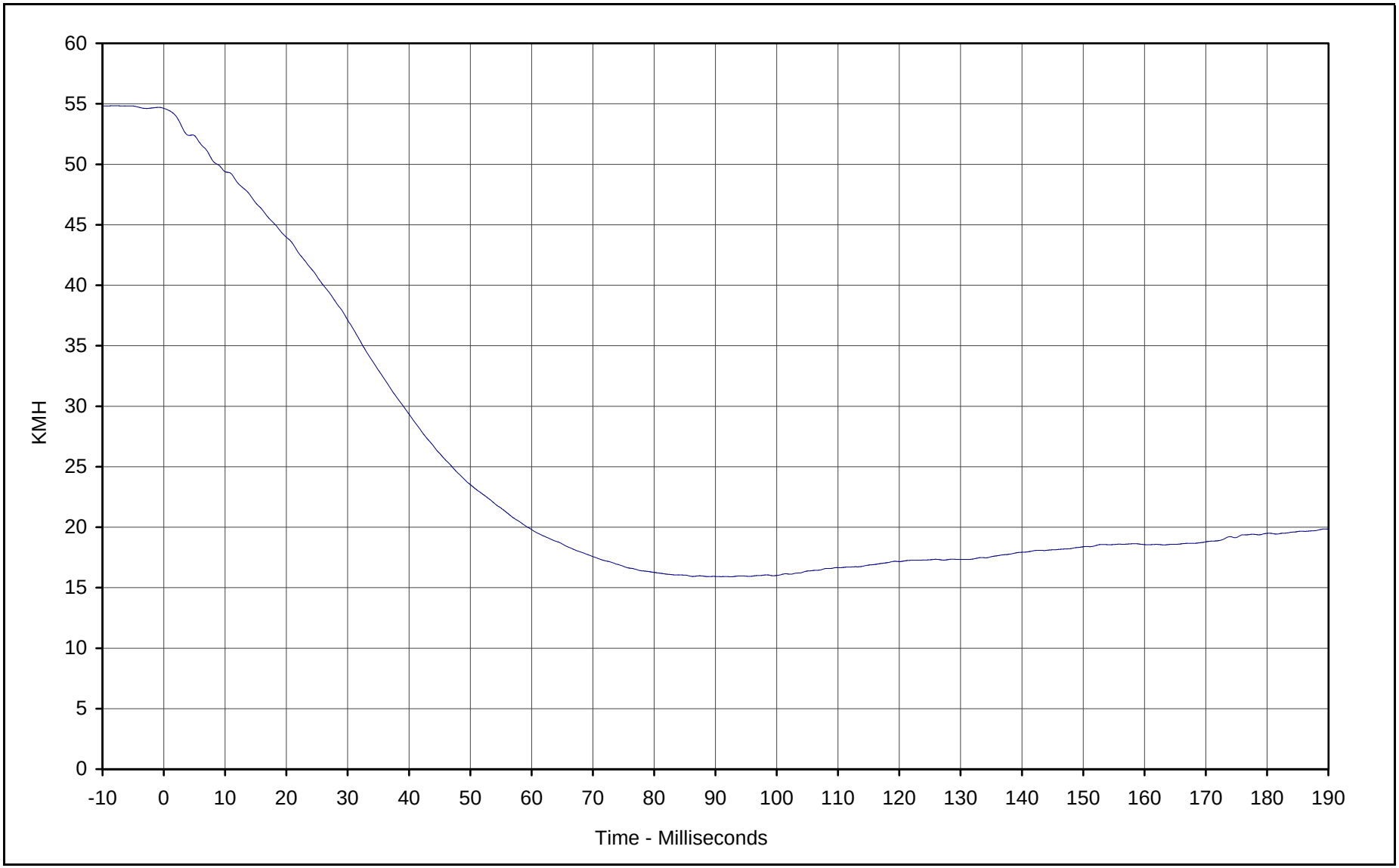
Curve Description:	MDB CG Resultant			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	23.7	at	34.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	0.2	at	129.0 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	RES-053				

KARCO Engineering



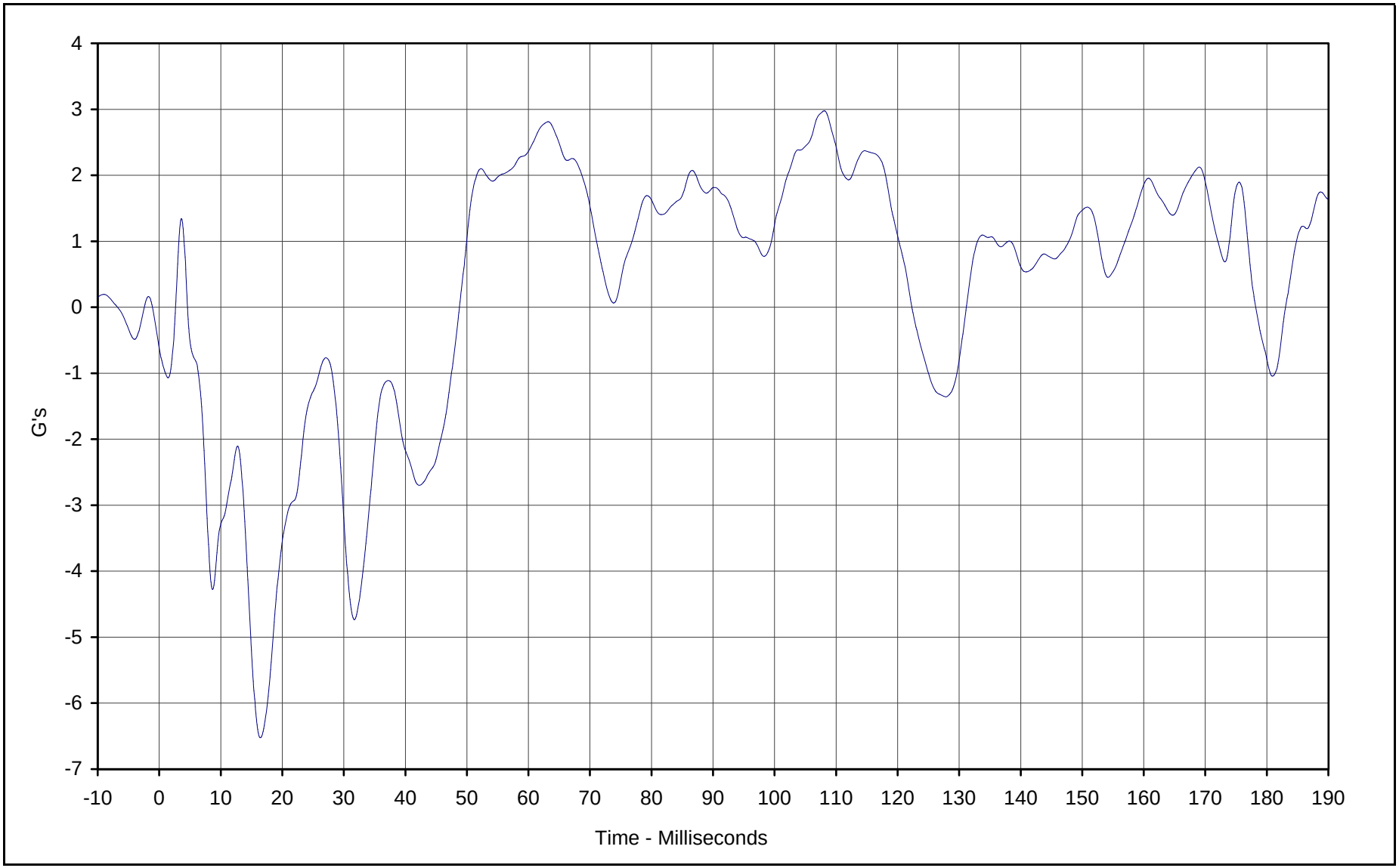
Curve Description:	MDB Rear X			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	3.0	at	173.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-24.1	at	31.8 Milliseconds		
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-056				

KARCO Engineering



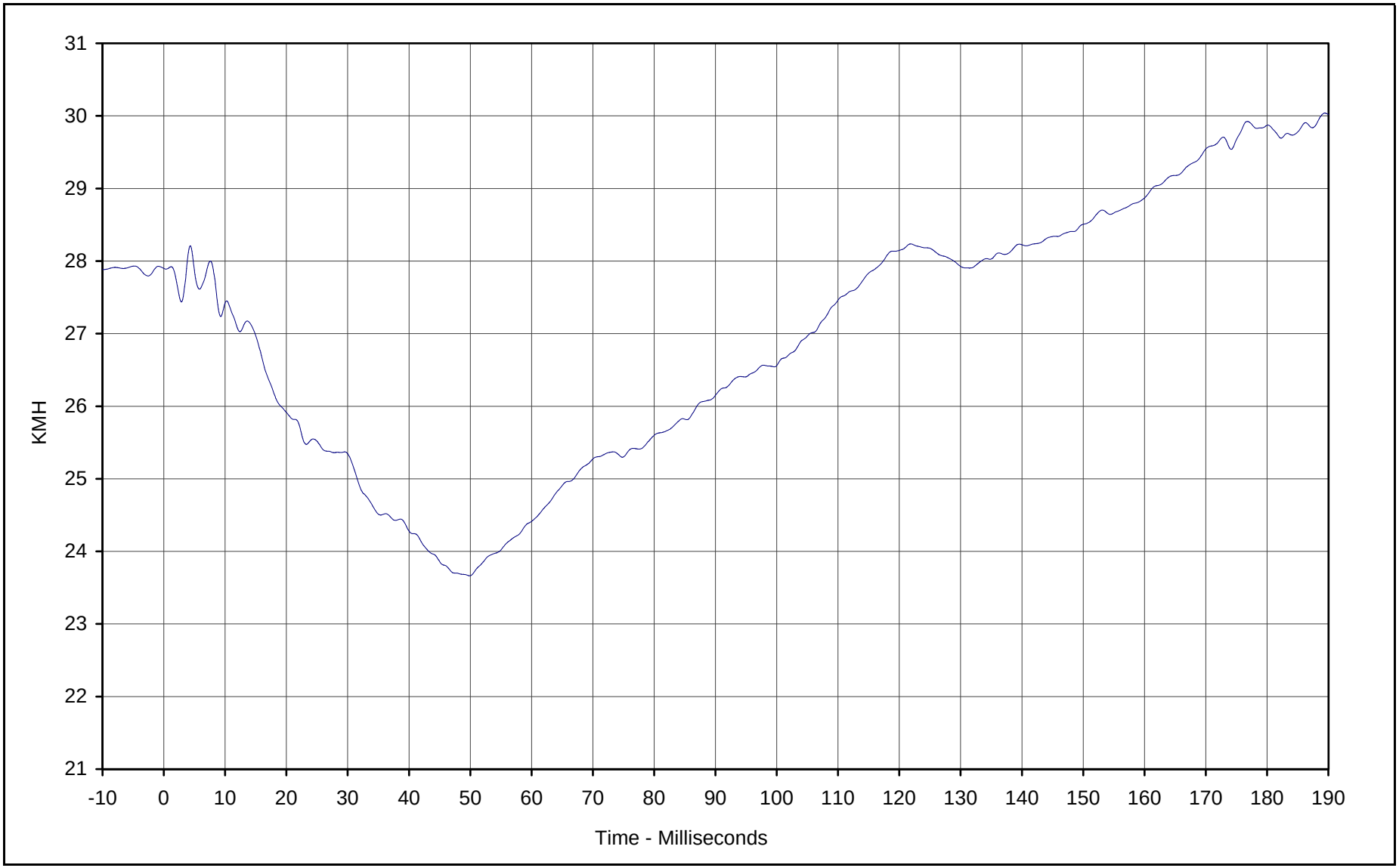
Curve Description:	MDB Rear X Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	54.6	at	0.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	15.9	at	92.6 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-056				

KARCO Engineering



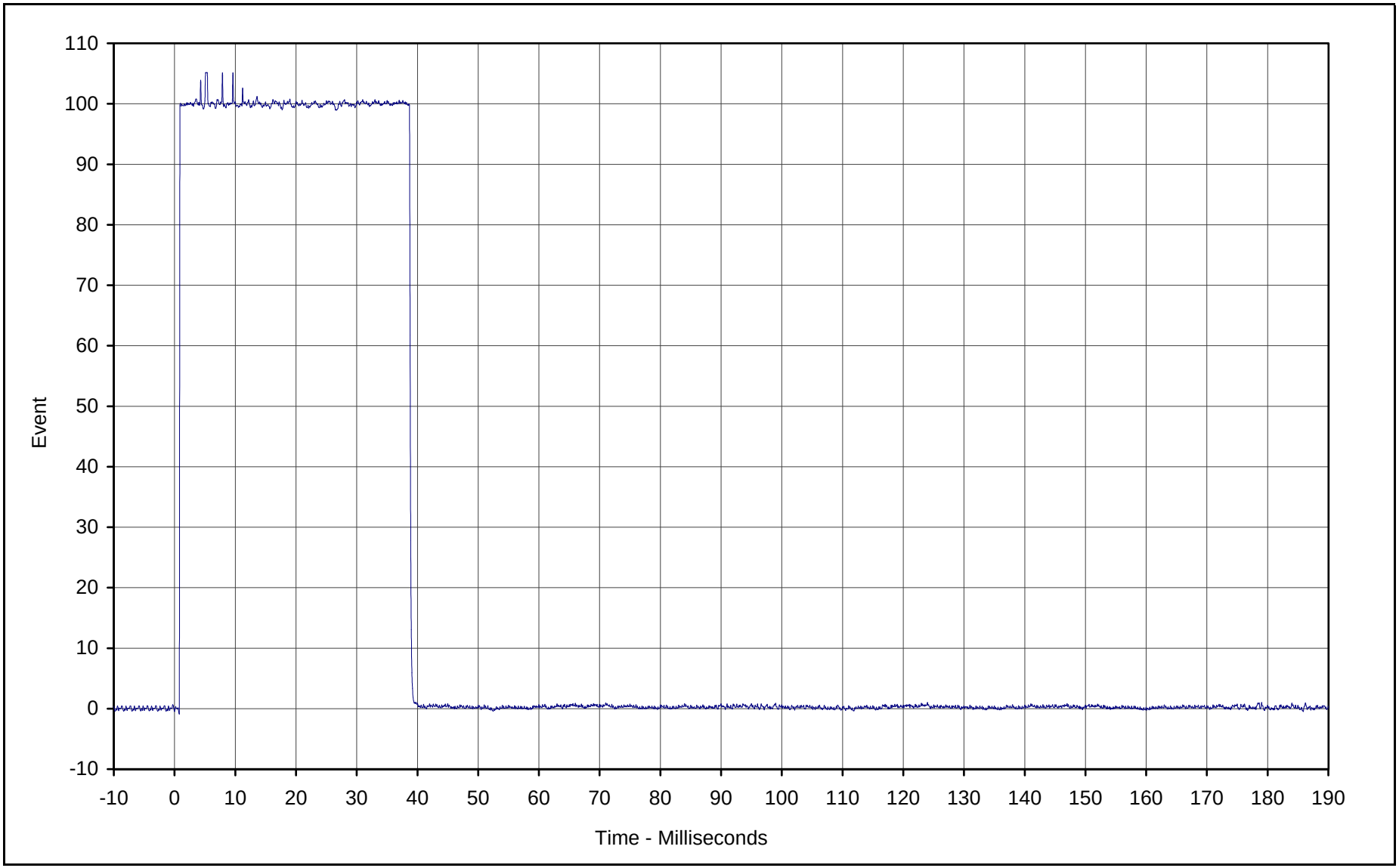
Curve Description:	MDB Rear Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	3.0	at	108.1	Milliseconds	Test Vehicle: 2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.5	at	16.4	Milliseconds	
SAE Filter Class:	60				
Date of Test:	11/30/00				
Curve Number:	FIL-057				

KARCO Engineering



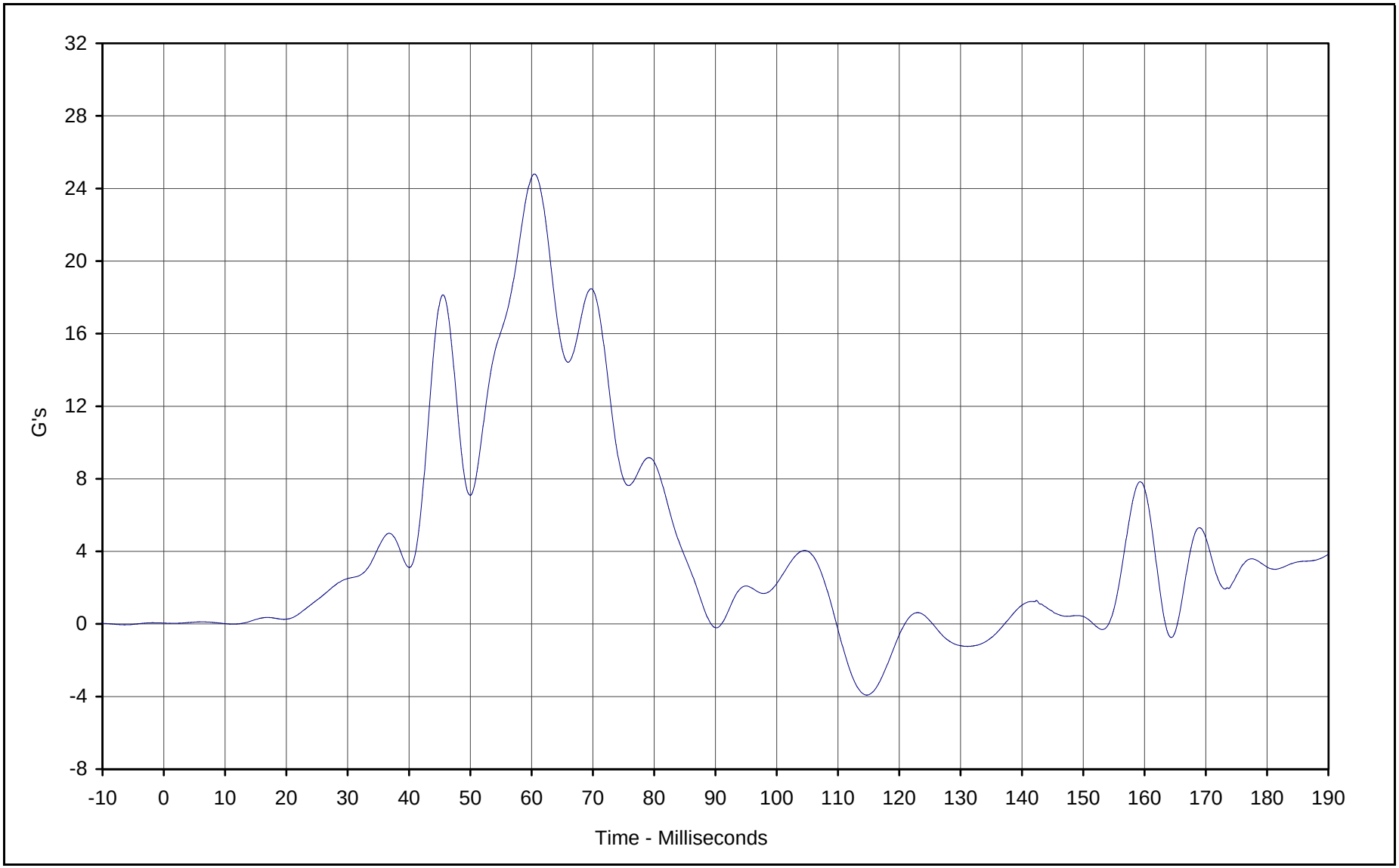
Curve Description:	MDB Rear Y Velocity			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	30.0	at	189.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	23.7	at	49.9 Milliseconds		
SAE Filter Class:	180				
Date of Test:	11/30/00				
Curve Number:	IN1-057				

KARCO Engineering



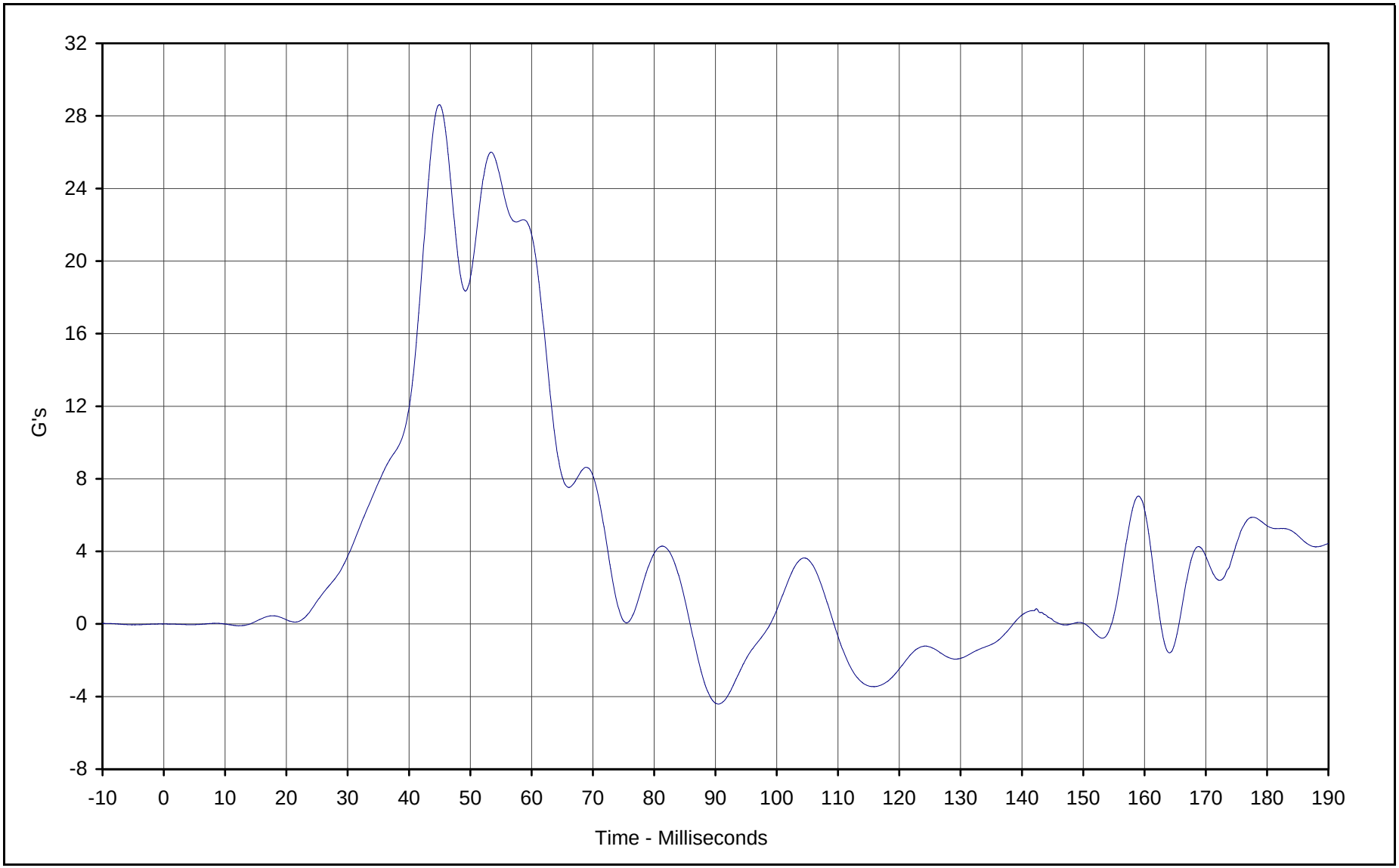
Curve Description:	MDB Right Bumper Contact			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	105.1	at	5.1 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Crossing Point:	50%	at	0.9 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/30/00				
Curve Number:	FIL-058				

KARCO Engineering



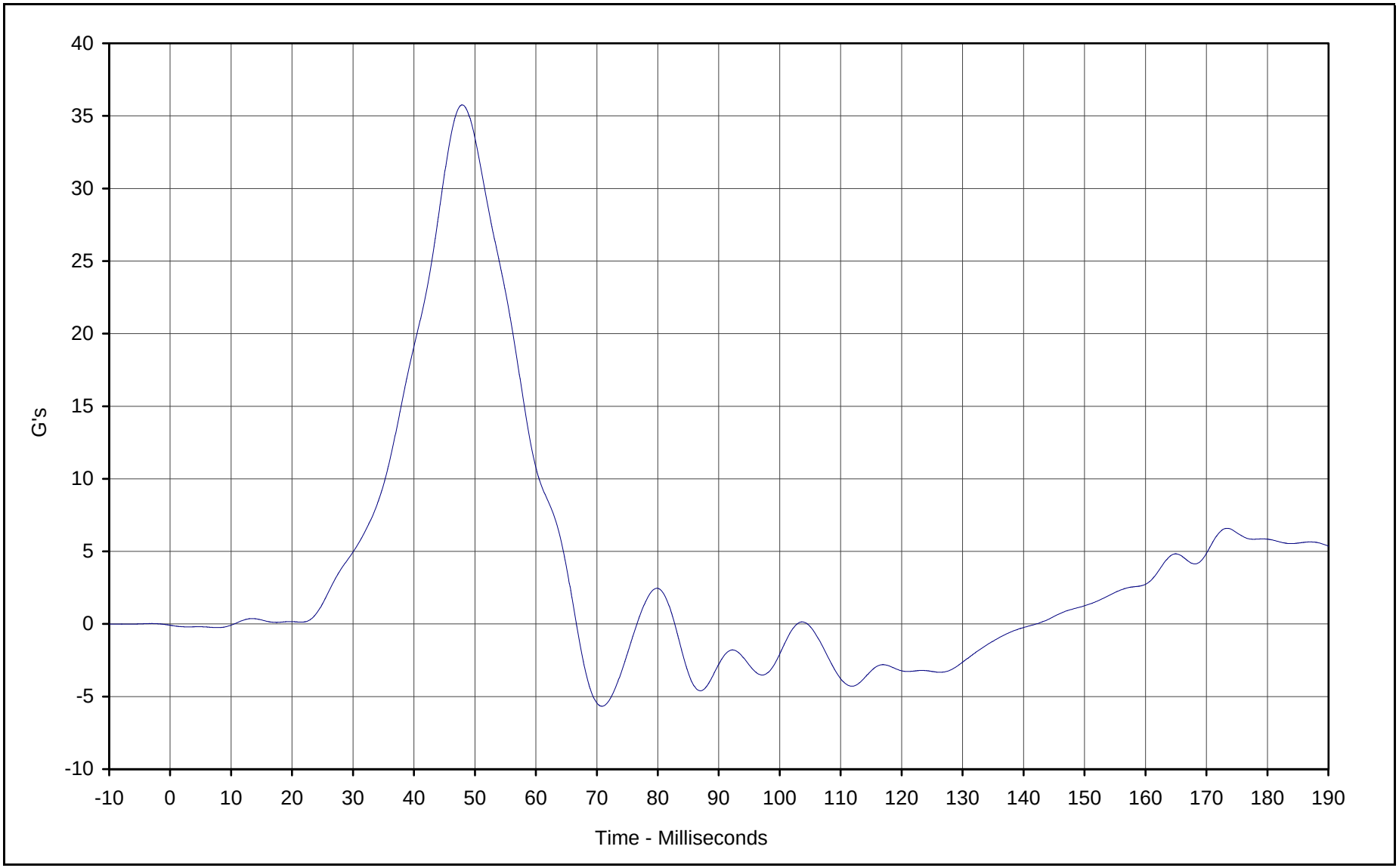
Curve Description:	Driver Upper Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	24.8	at	60.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-3.9	at	114.7 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-004				

KARCO Engineering



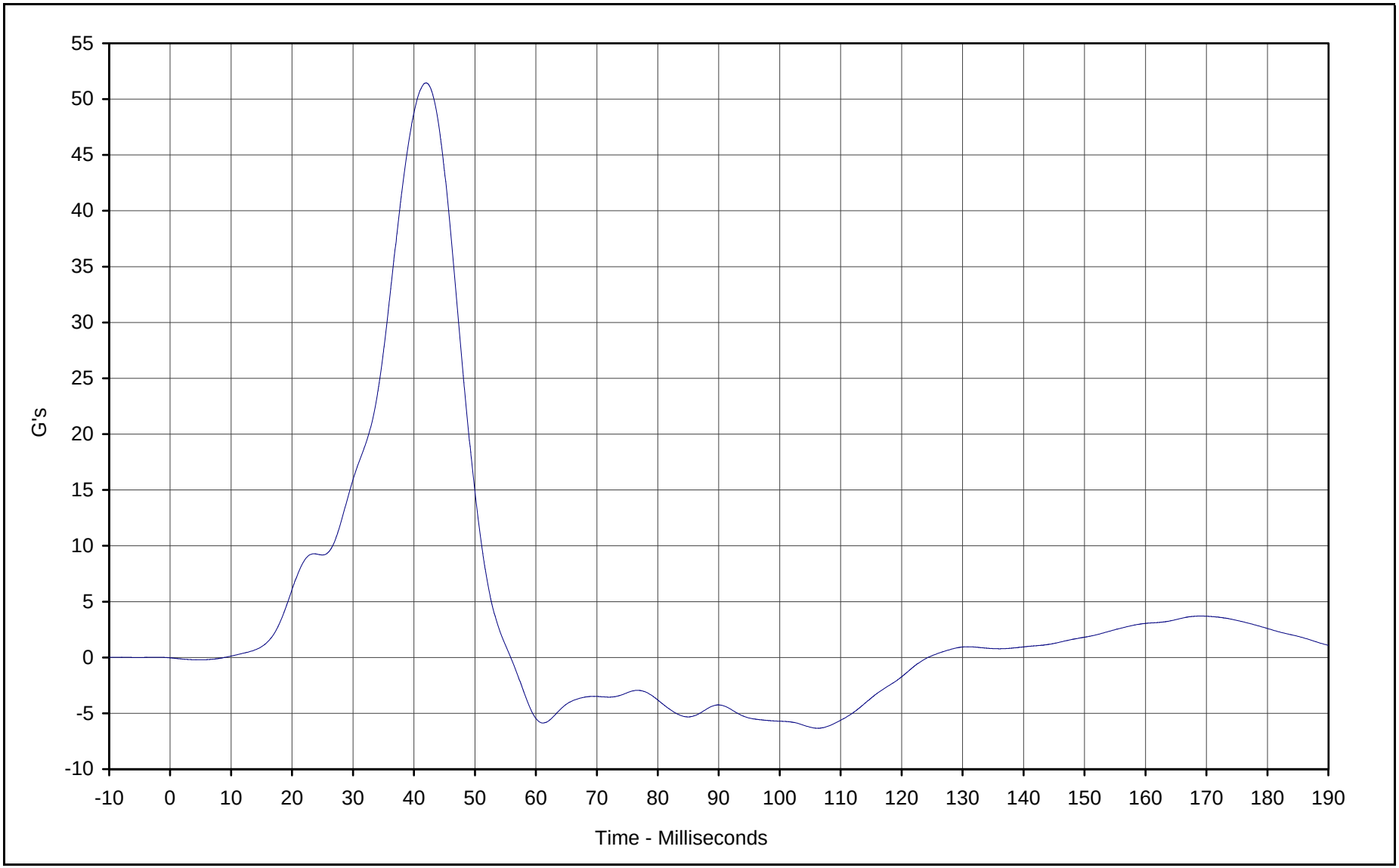
Curve Description:	Driver Lower Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.6	at	44.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-4.4	at	90.5 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-005				

KARC Engineering



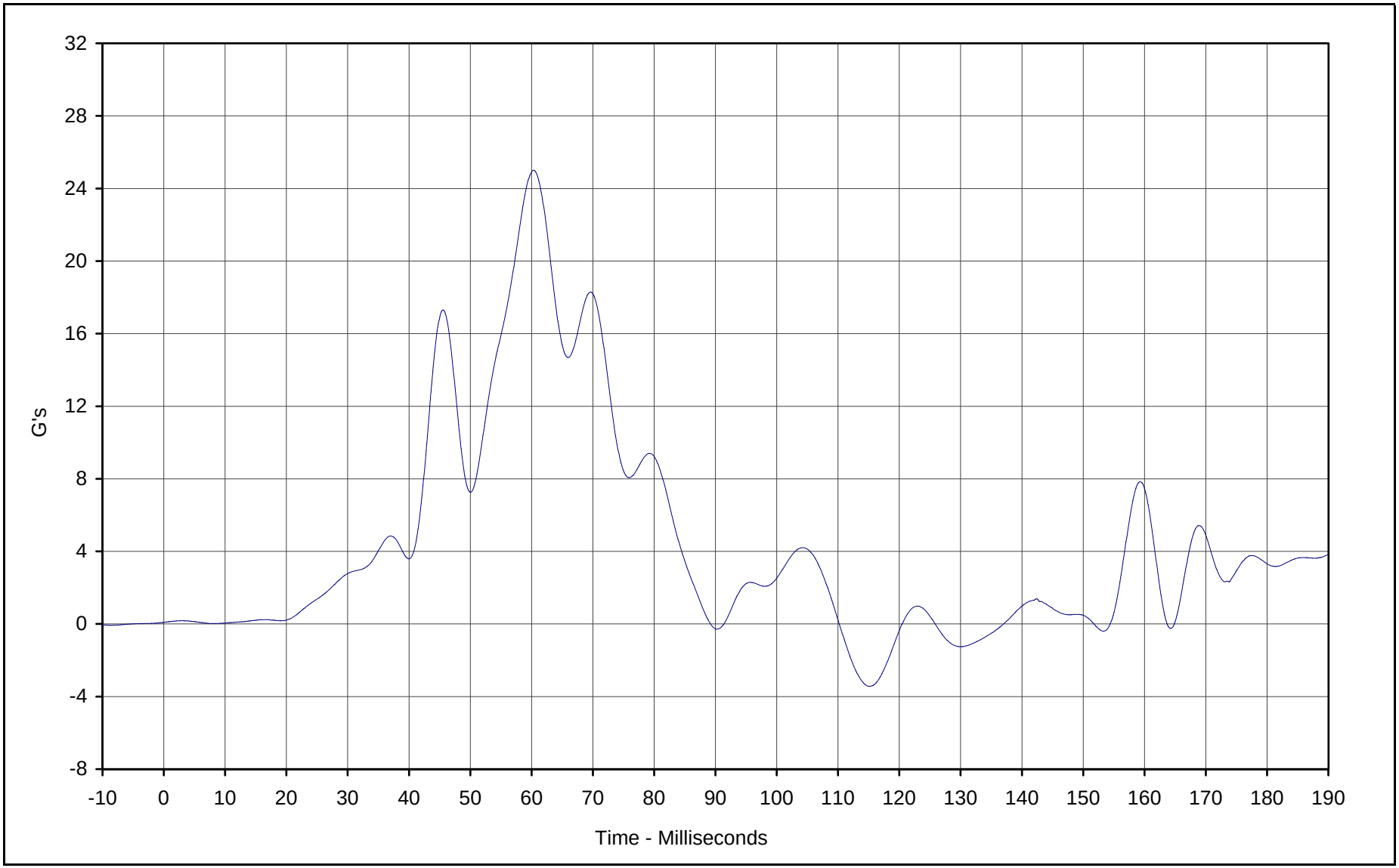
Curve Description:	Driver Lower Spine Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	35.8	at	47.9 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-5.7	at	70.9 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-006				

KARC Engineering



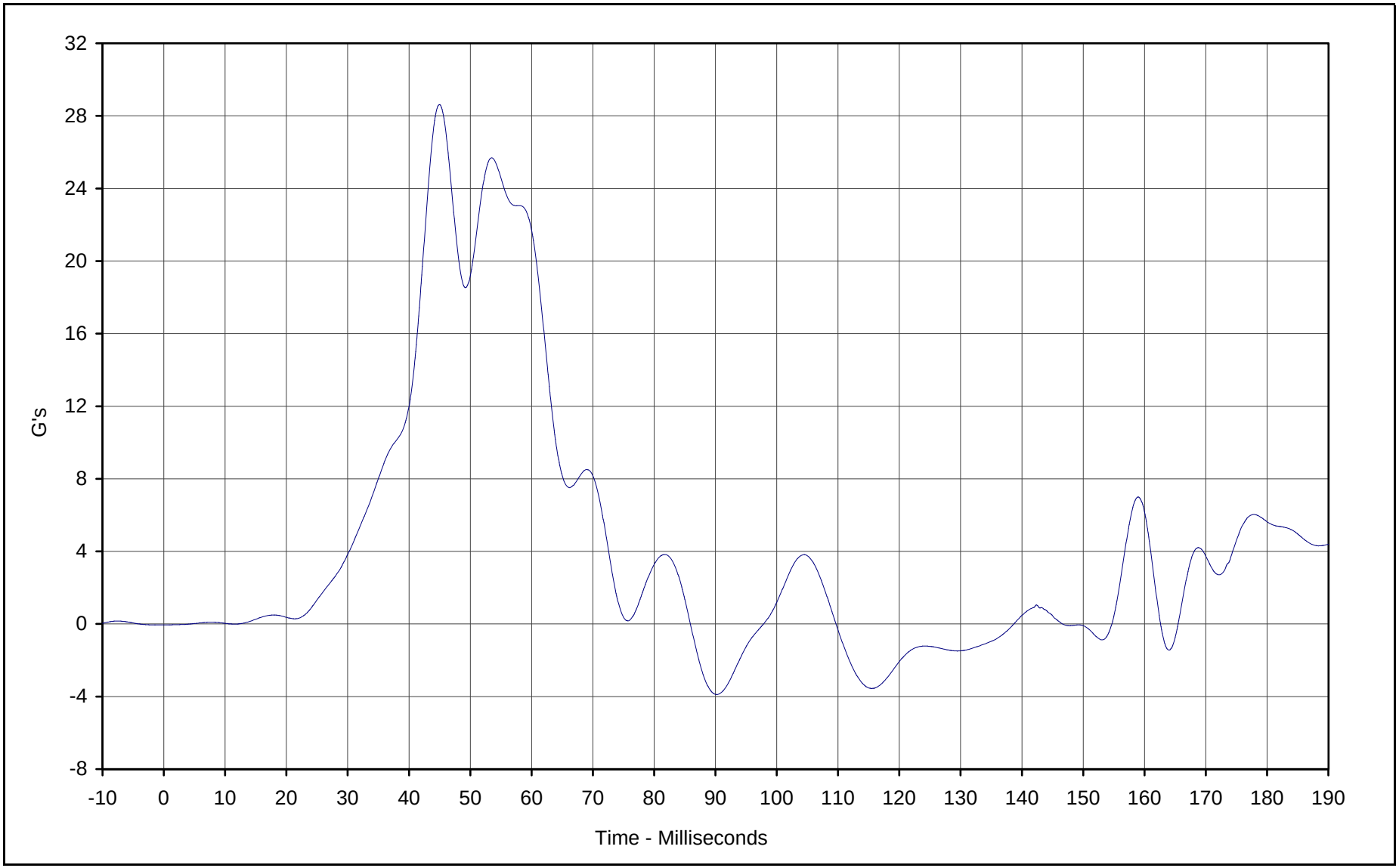
Curve Description:	Driver Pelvis Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	51.5	at	42.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.3	at	106.3 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-007				

KARCO Engineering



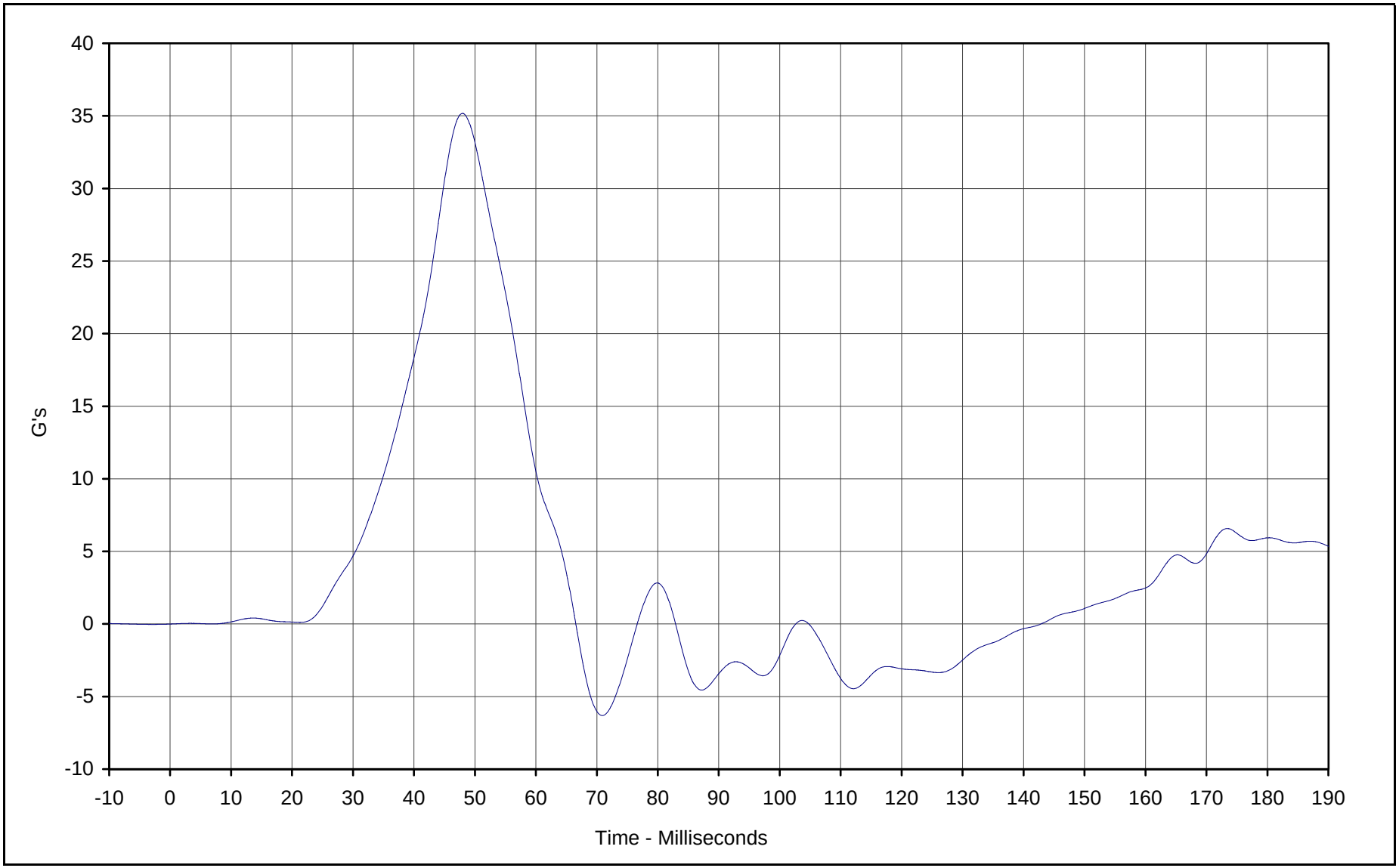
Curve Description:	Driver Upper Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	25.0	at	60.3 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-3.4	at	115.2 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-008				

KARC Engineering



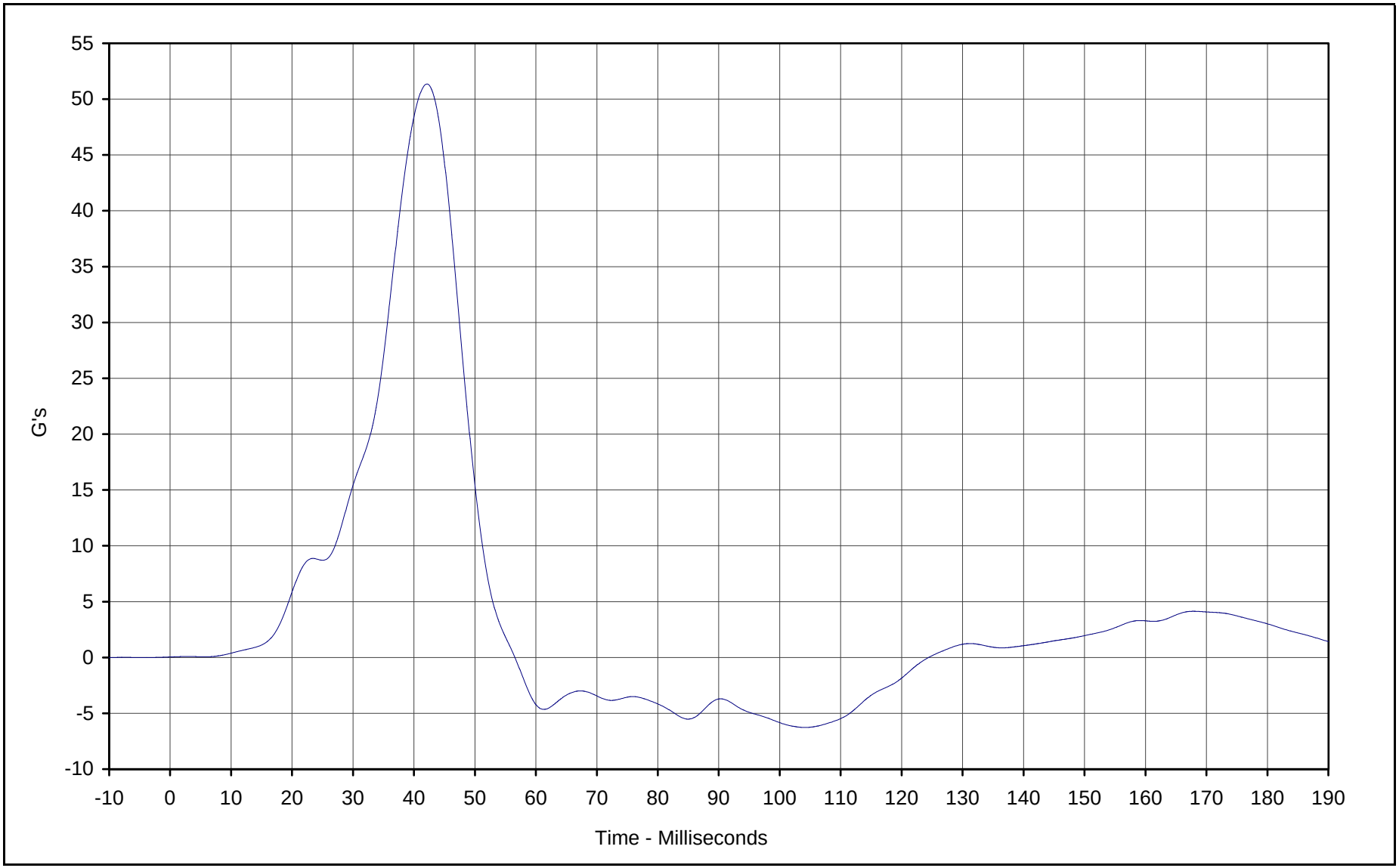
Curve Description:	Driver Lower Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.6	at	45.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-3.9	at	90.2 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-009				

KARCO Engineering



Curve Description:	Driver Lower Spine Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	35.2	at	48.0 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-6.3	at	70.9 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-010				

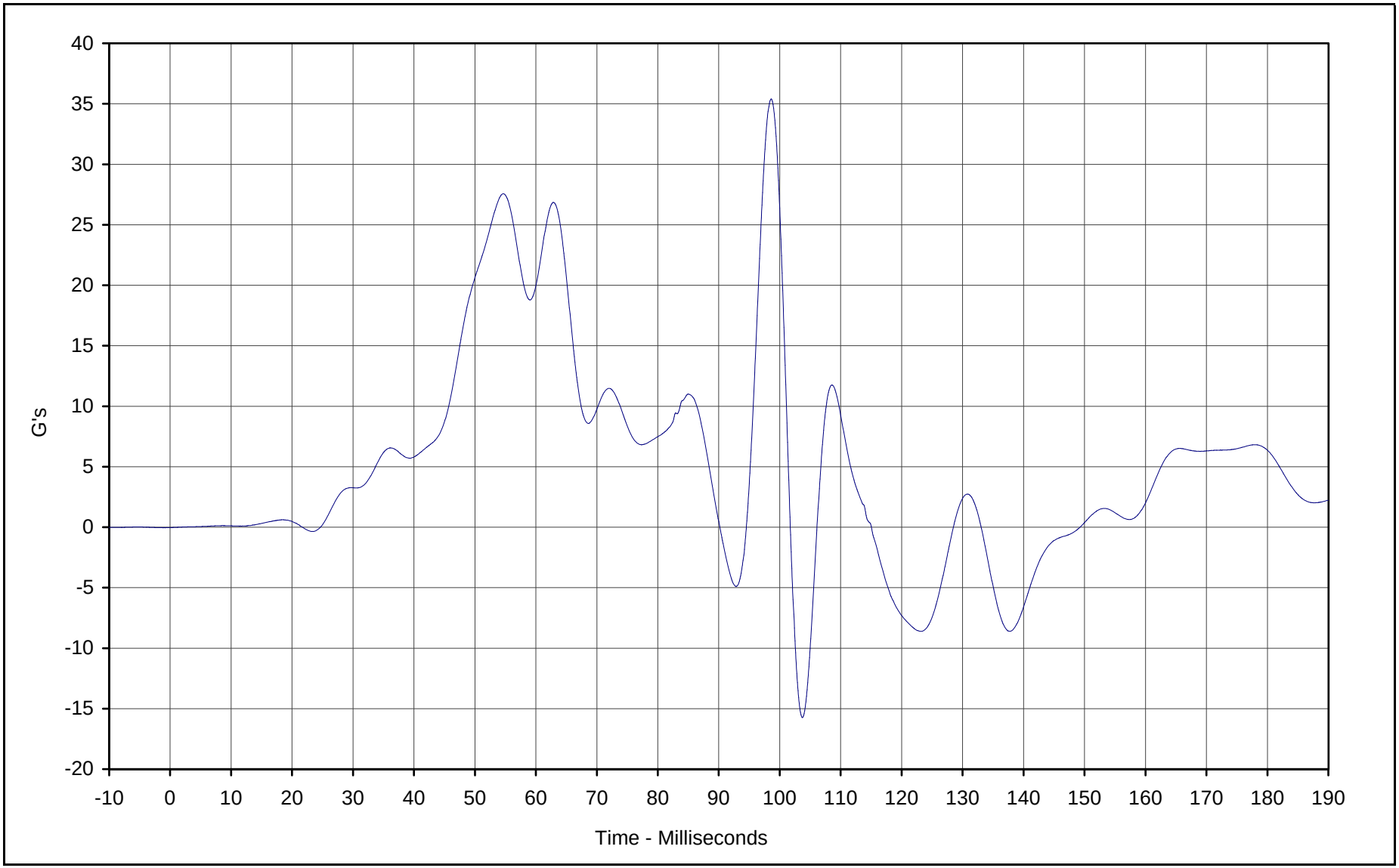
KARC Engineering



Curve Description:	Driver Pelvis Redundant Y				
Maximum Value:	51.4	at	42.1	Milliseconds	
Minimum Value:	-6.3	at	104.3	Milliseconds	
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-011				

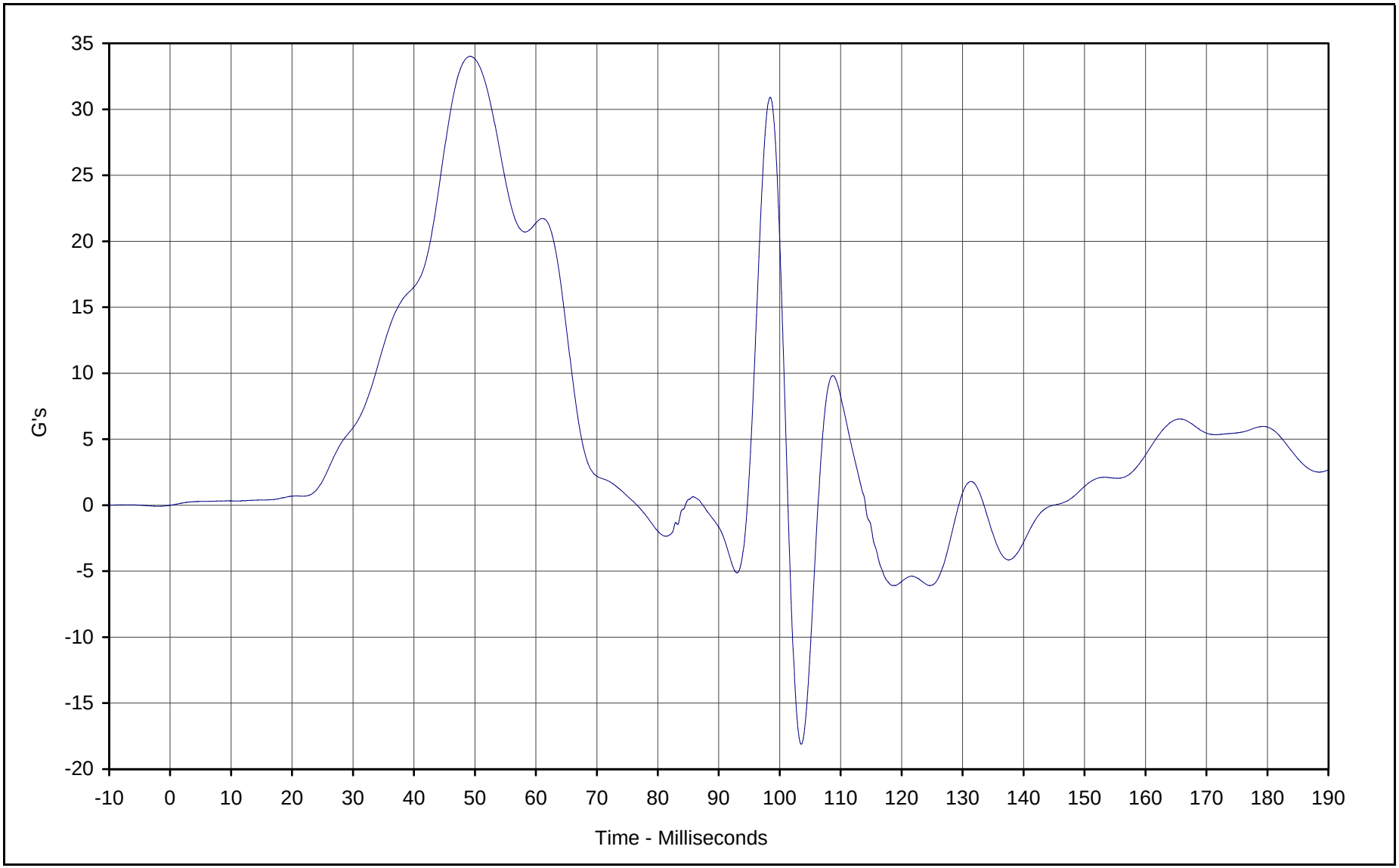
Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering



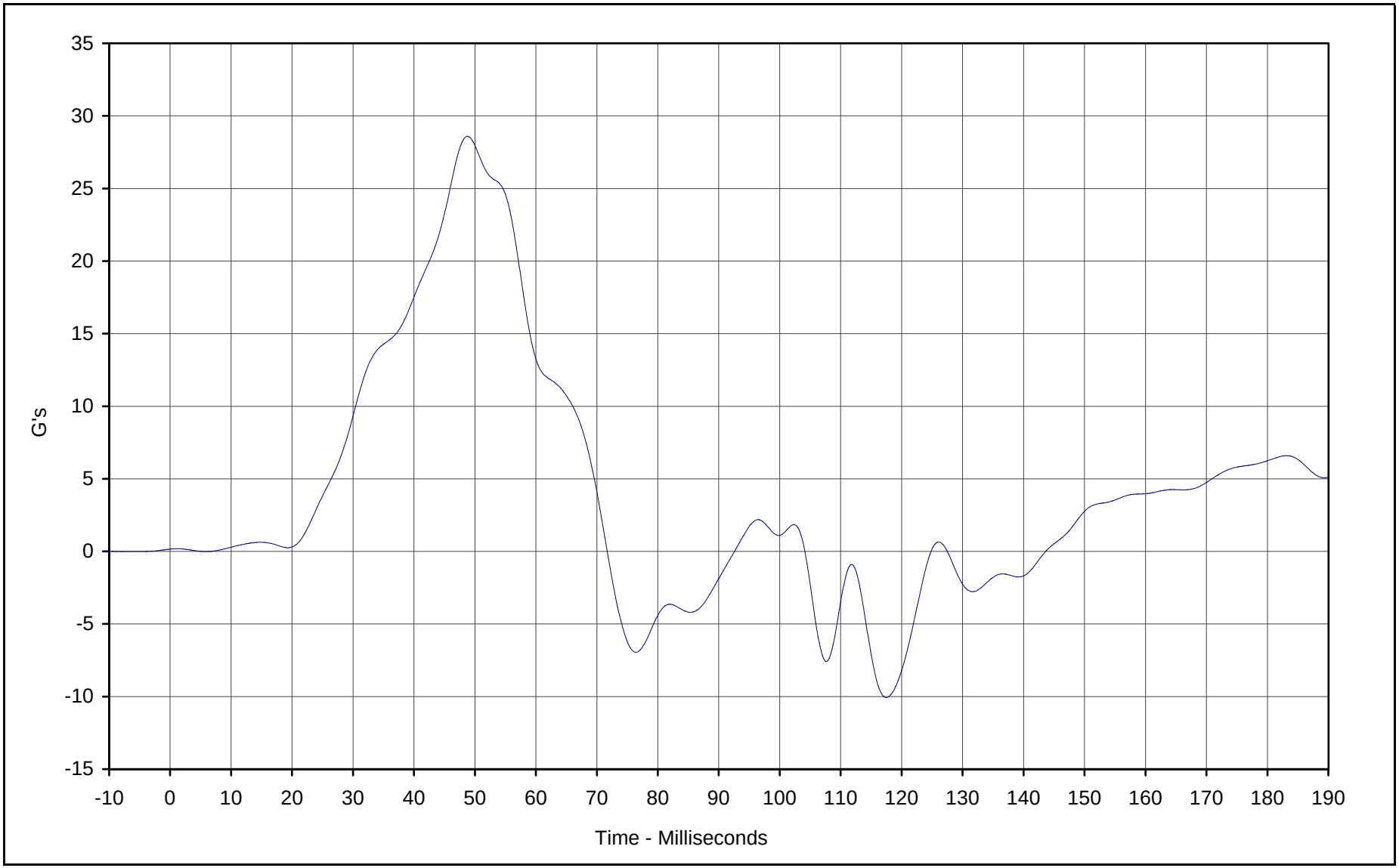
Curve Description:	Pass. Upper Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	35.4	at	98.6 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-15.7	at	103.7 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-017				

KARC Engineering



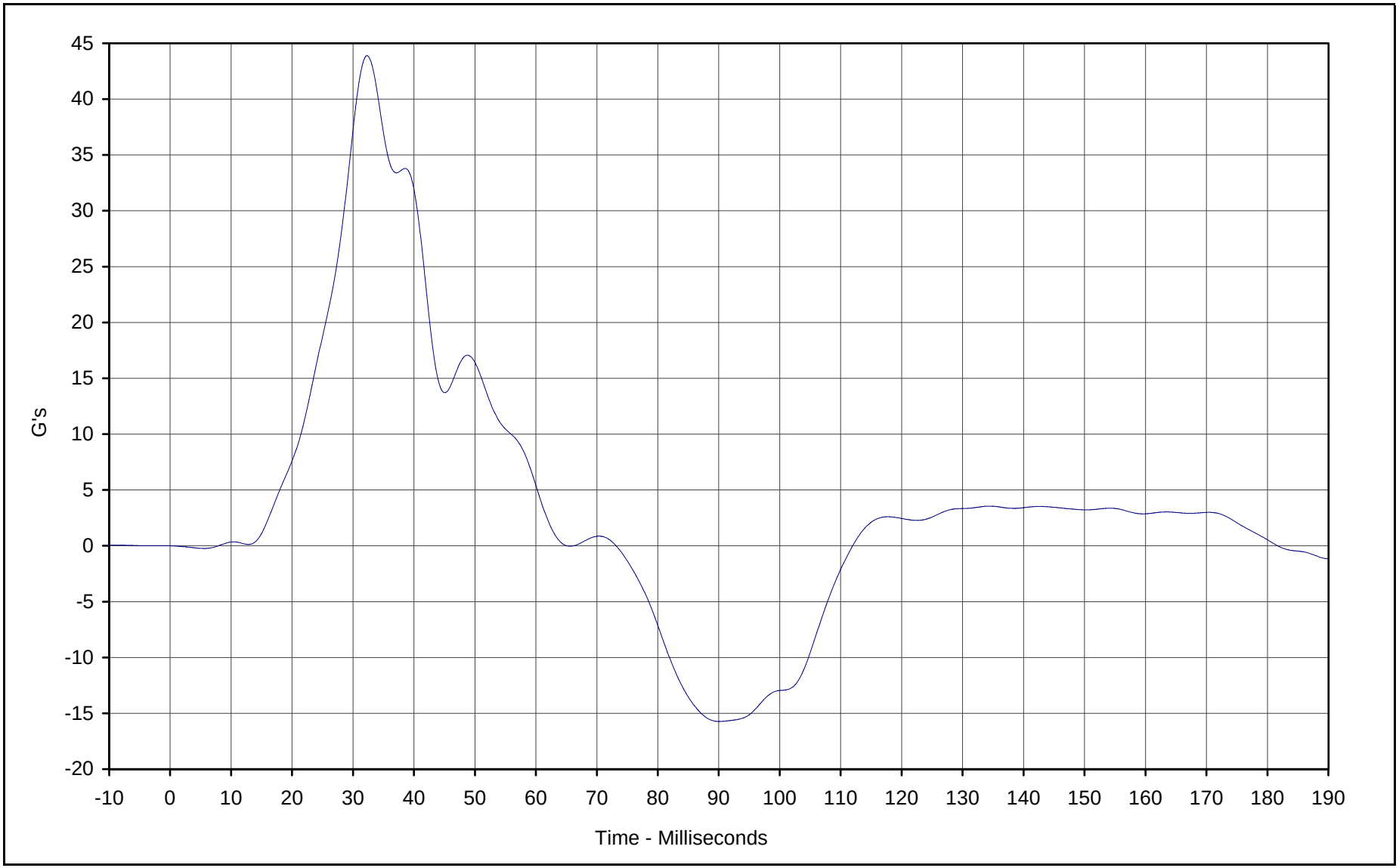
Curve Description:	Pass. Lower Rib Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	34.0	at	49.2 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-18.1	at	103.5 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-018				

KARCO Engineering



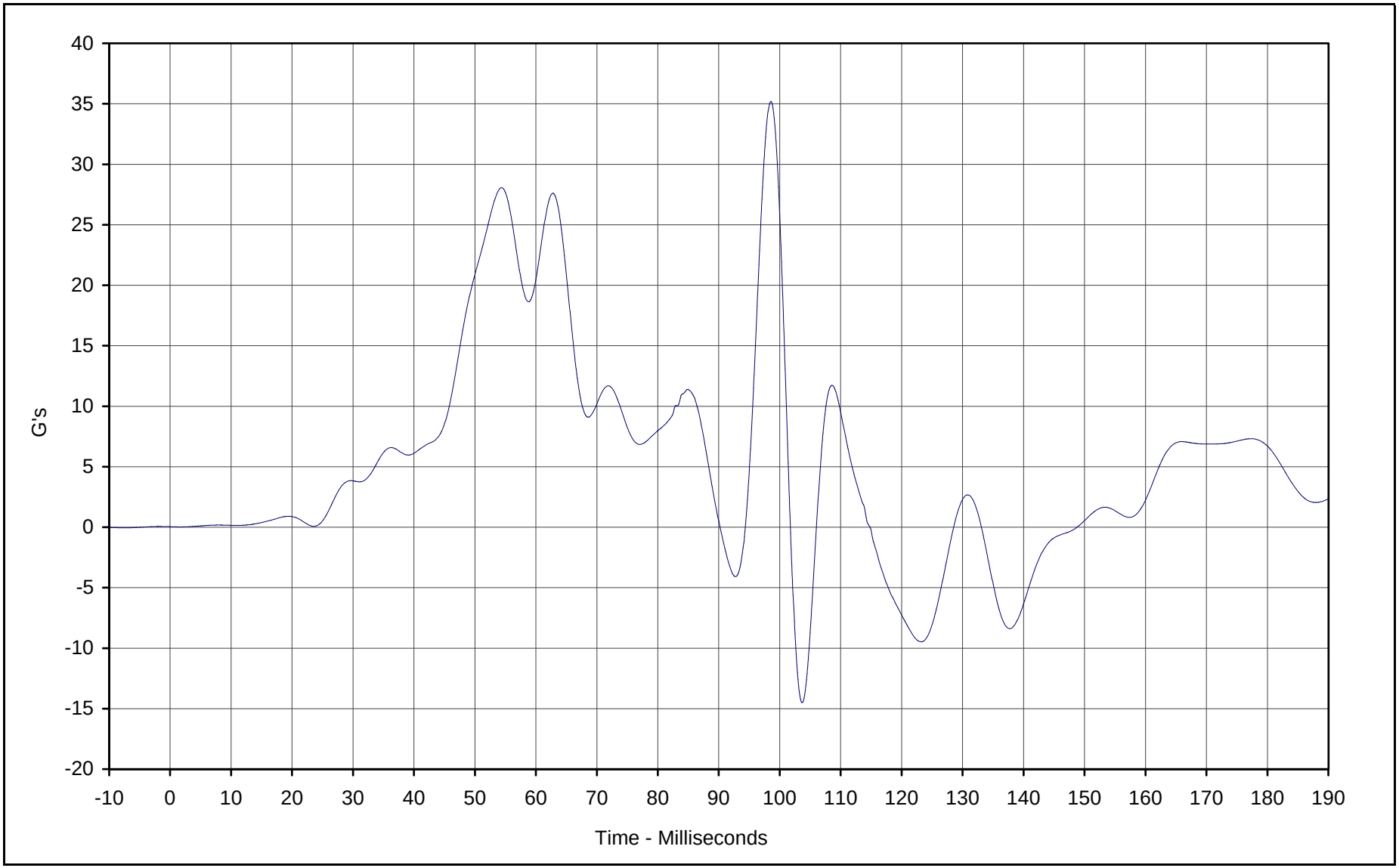
Curve Description:	Pass. Lower Spine Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.6	at	48.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-10.1	at	117.5 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-019				

KARC Engineering



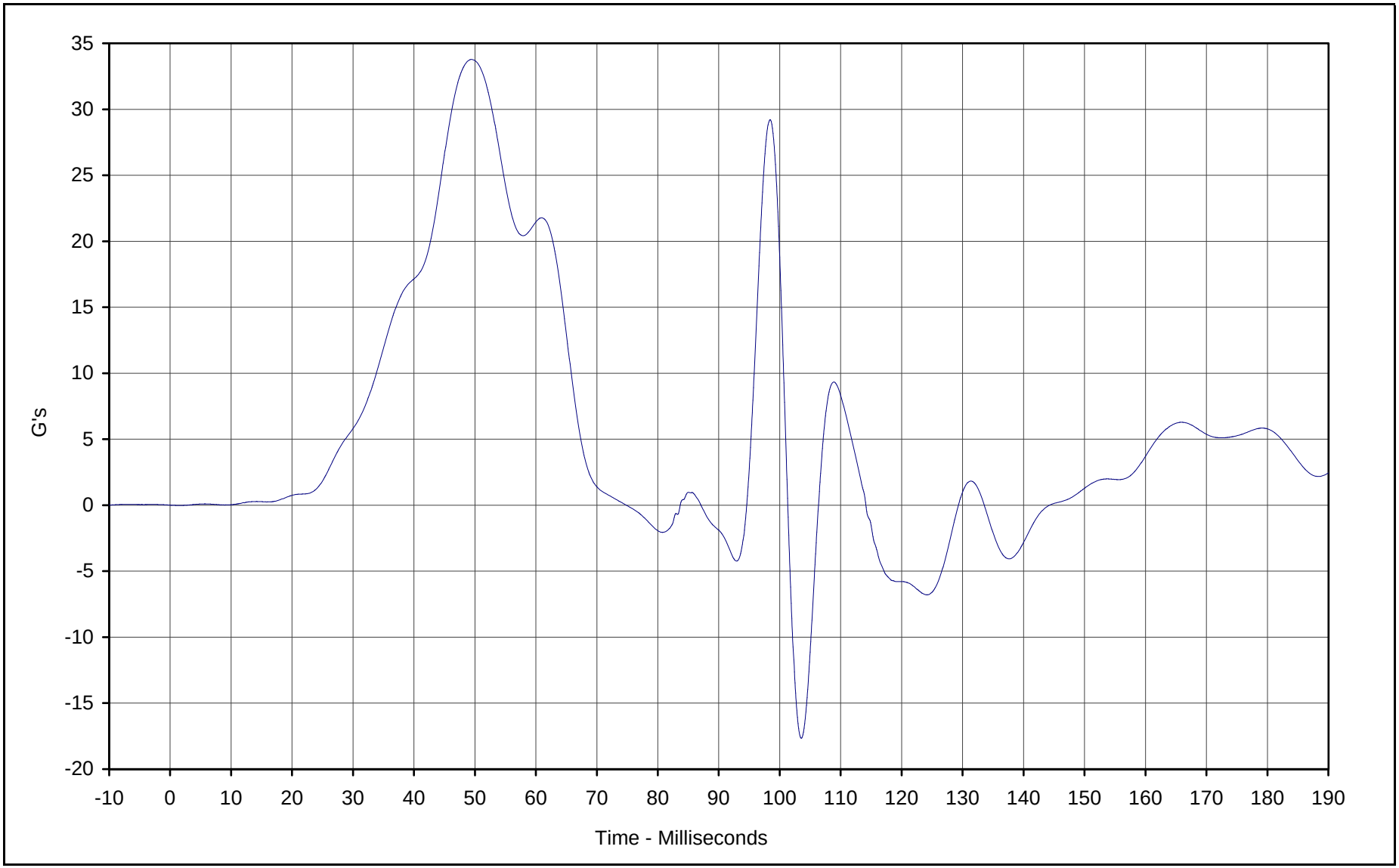
Curve Description:	Pass. Pelvis Primary Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	43.9	at	32.3	Milliseconds	Test Vehicle: 2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-15.7	at	90.1	Milliseconds	
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-020				

KARCO Engineering



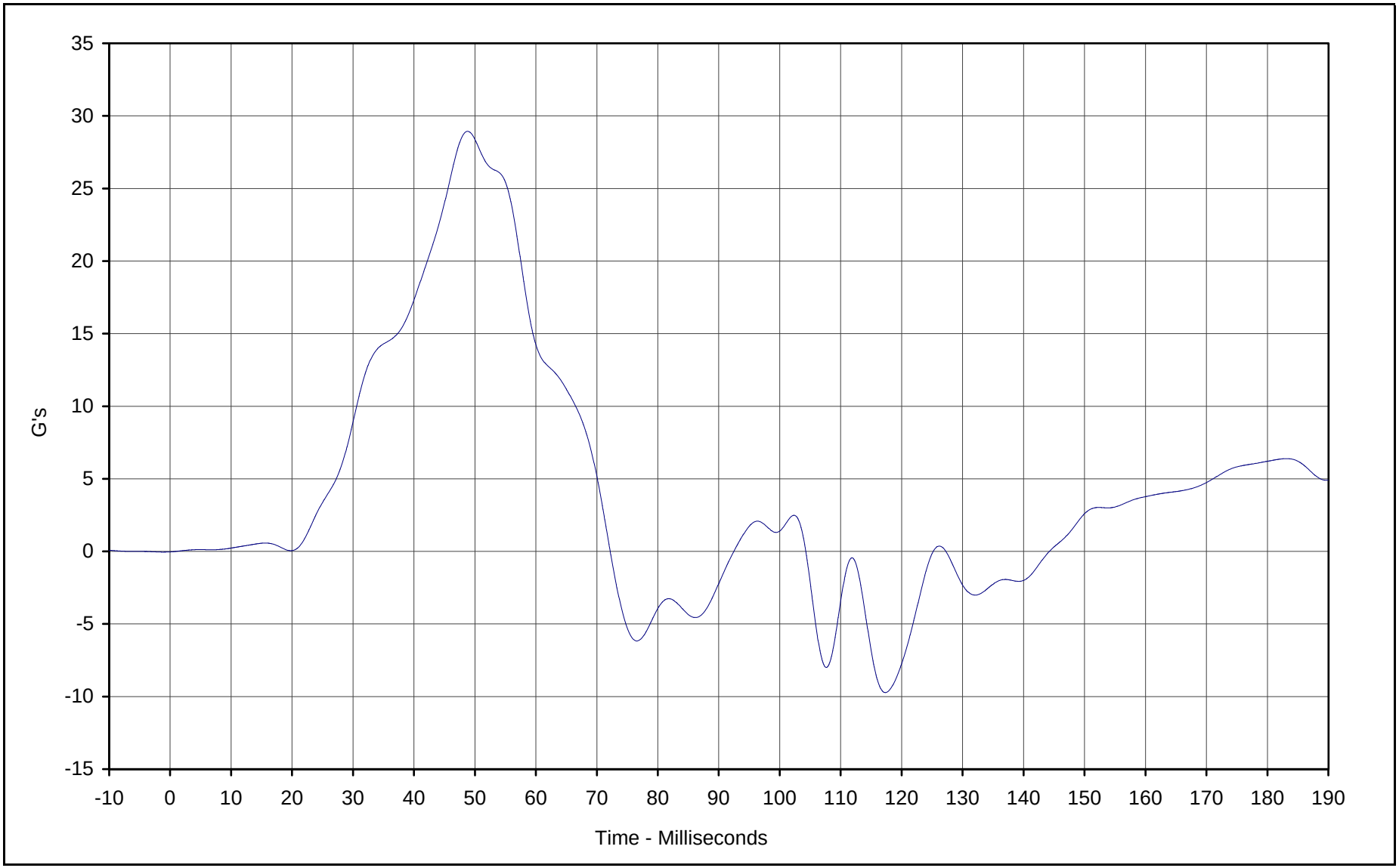
Curve Description:	Pass. Upper Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	35.2	at	98.5 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-14.5	at	103.7 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-021				

KARCO Engineering



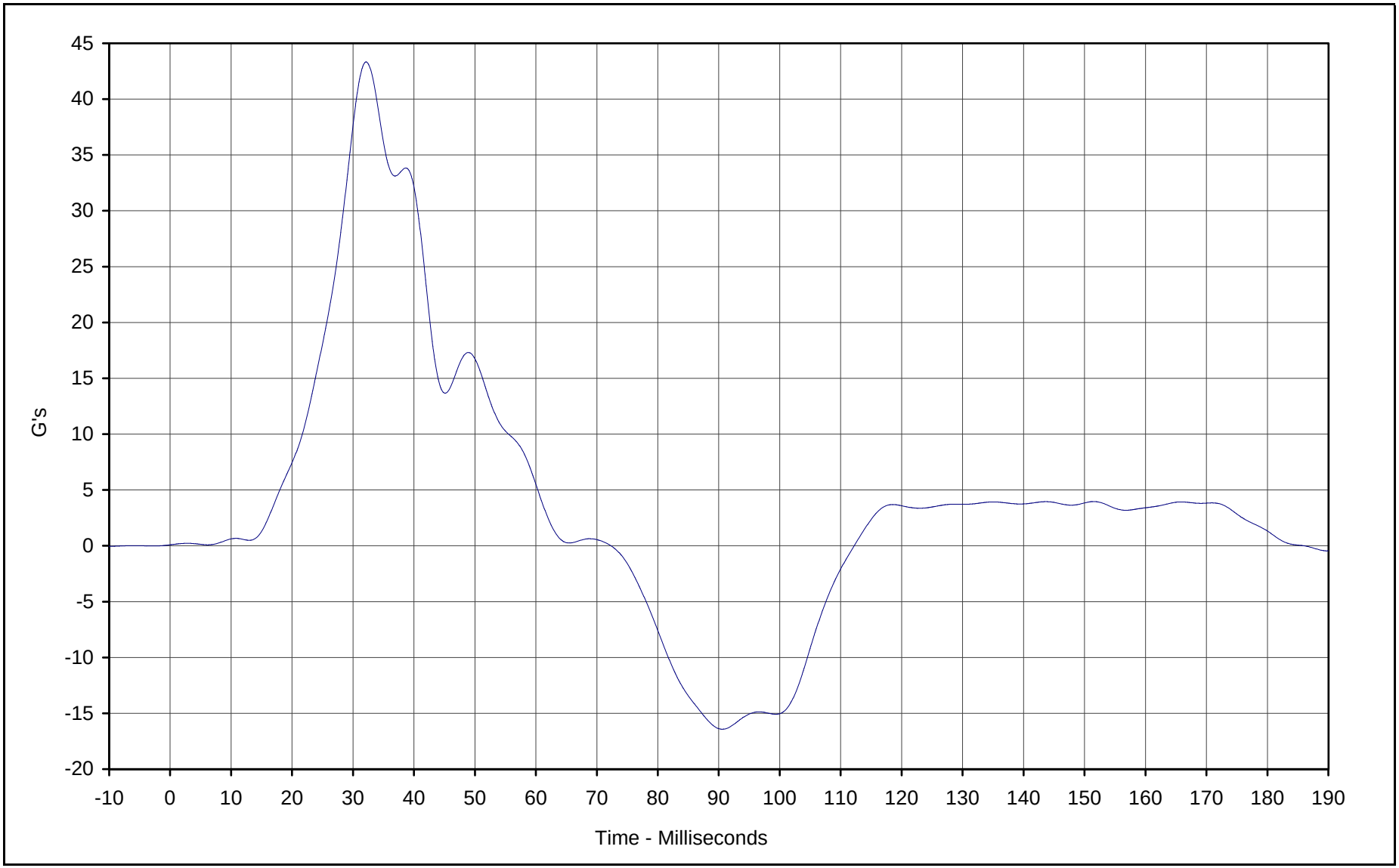
Curve Description:	Pass. Lower Rib Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	33.8	at	49.4 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-17.7	at	103.5 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-022				

KARCO Engineering



Curve Description:	Pass. Lower Spine Redundant Y			Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Maximum Value:	28.9	at	48.8 Milliseconds	Test Vehicle:	2001 Ford Explorer XLT 4WD SUV
Minimum Value:	-9.7	at	117.4 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-023				

KARCO Engineering



Curve Description:	Pass. Pelvis Redundant Y				
Maximum Value:	43.3	at	32.2	Milliseconds	
Minimum Value:	-16.4	at	90.6	Milliseconds	
SAE Filter Class:	FIR 100				
Date of Test:	11/30/00				
Curve Number:	FIR-024				

Test Program:	55/28 km/h Side Impact NCAP No.: M10204
Test Vehicle:	2001 Ford Explorer XLT 4WD SUV

KARCO Engineering

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
PRE-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Performance Verification Data
Side Impact Dummy (SID)
External Dimensions

ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	^{o}C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	905	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	515	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date

Performance Verification Data
Side Impact Dummy (SID)
Thorax Lateral Impact

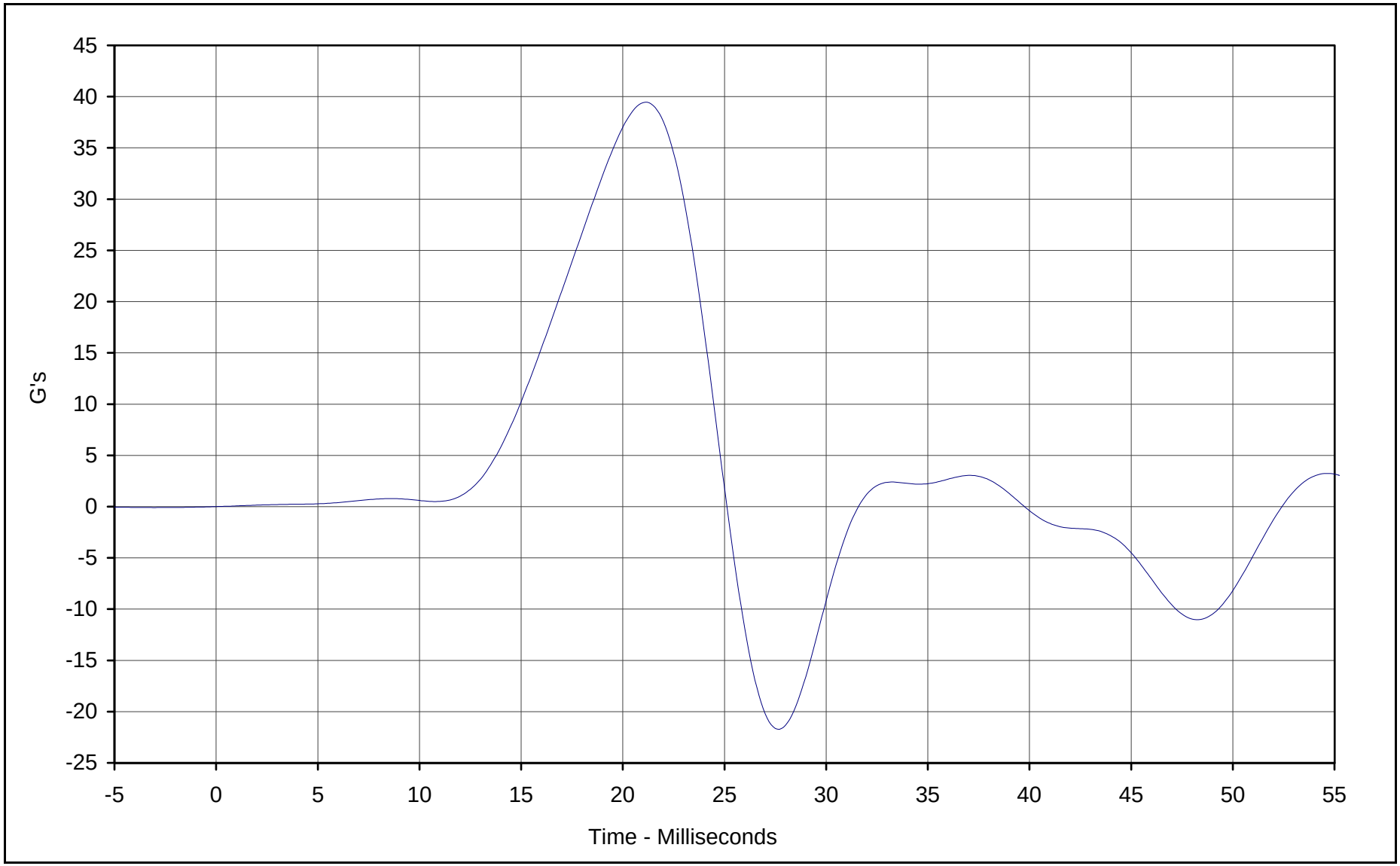
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: TI10B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	39.5	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	41.7	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	18.0	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 39.5 at 21.1 Milliseconds

Minimum Value: -21.7 at 27.7 Milliseconds

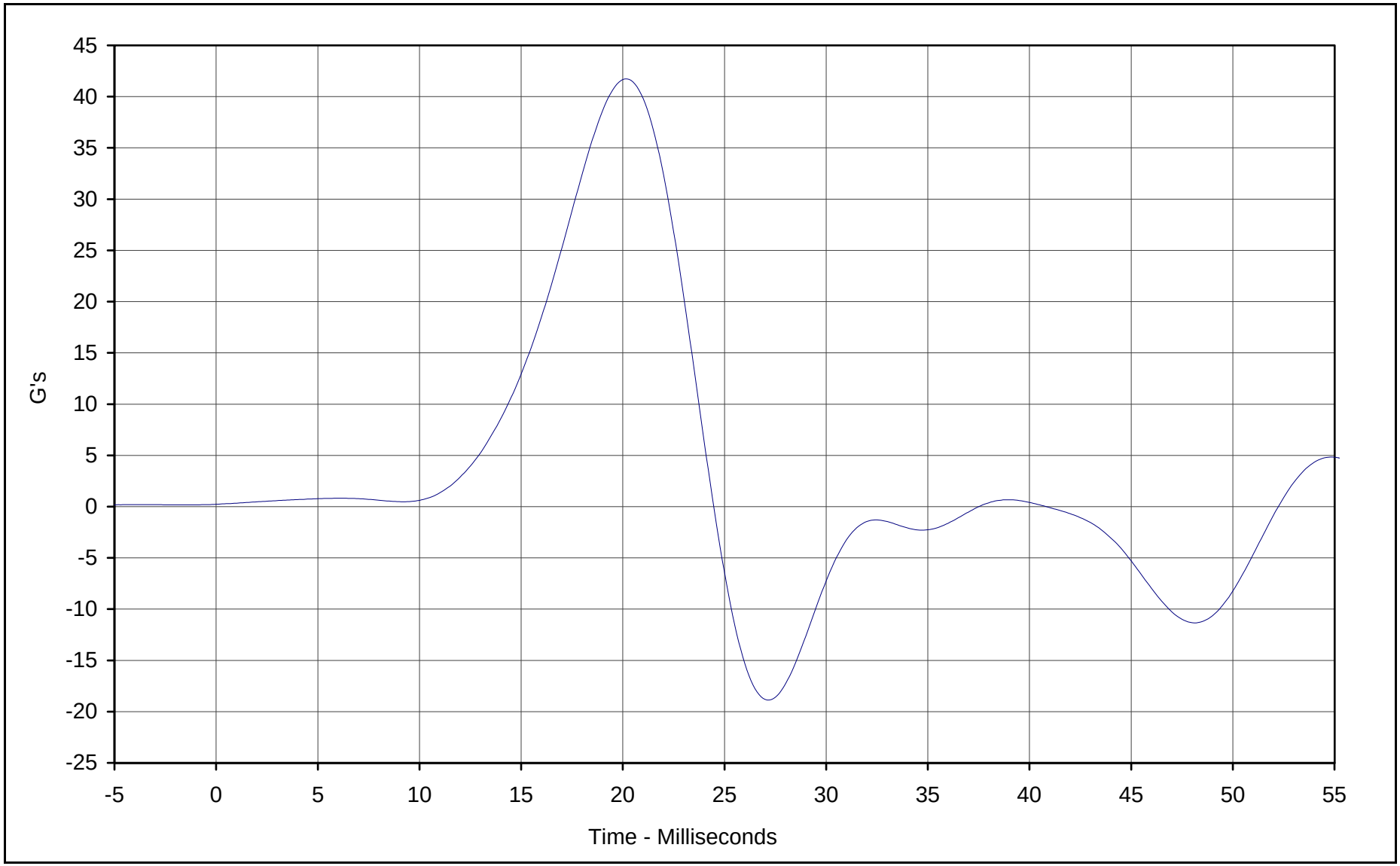
SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10B

KARCO Engineering



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 41.7 at 20.2 Milliseconds

Minimum Value: -18.9 at 27.2 Milliseconds

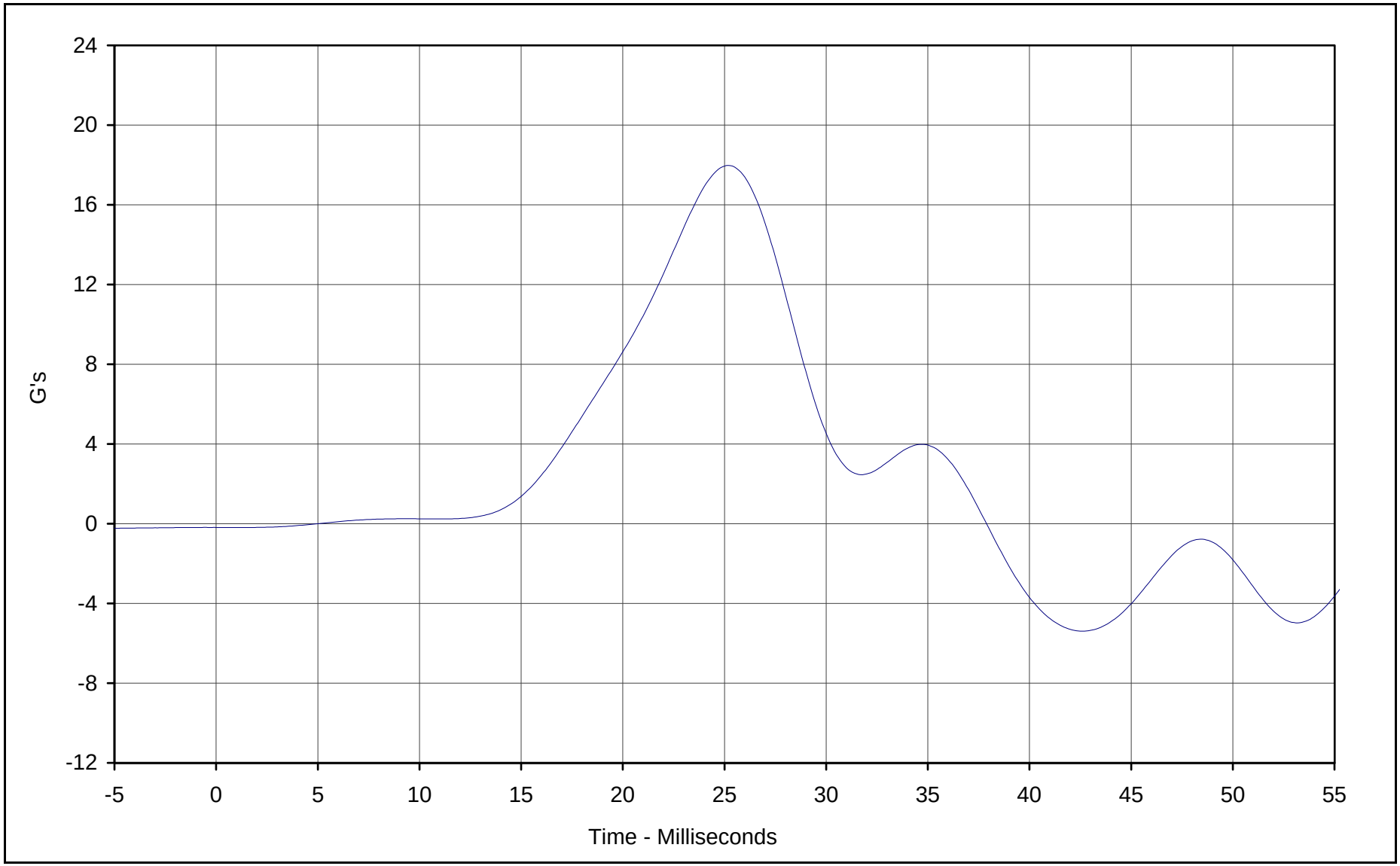
SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10B

KARCO Engineering



Curve Description: Lower Spine Y Acceleration

Maximum Value: 18.0 at 25.2 Milliseconds

Minimum Value: -5.4 at 42.6 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10B

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact

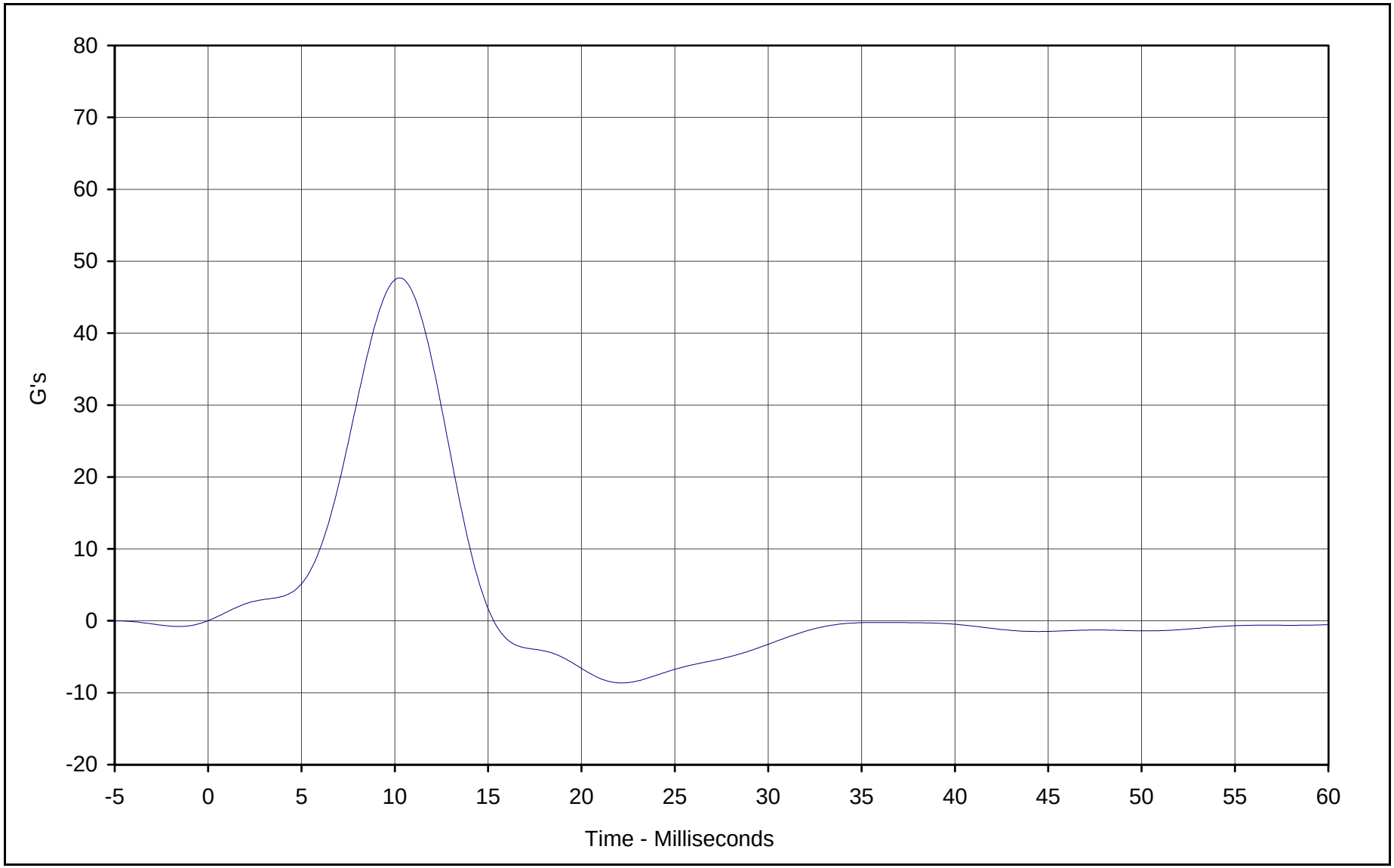
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: PI11A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	47.7	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description:	Pelvis Y Axis Acceleration			Test Program:	Left Side Pelvis Lateral Impact
Maximum Value:	47.7	at	10.3 Milliseconds	Test Information:	SID S/N: 274 Test I.D.: PI11A
Minimum Value:	-8.6	at	22.2 Milliseconds		
SAE Filter Class:	FIR 100				
Date of Test:	11/29/00				

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Abdominal Compression Test

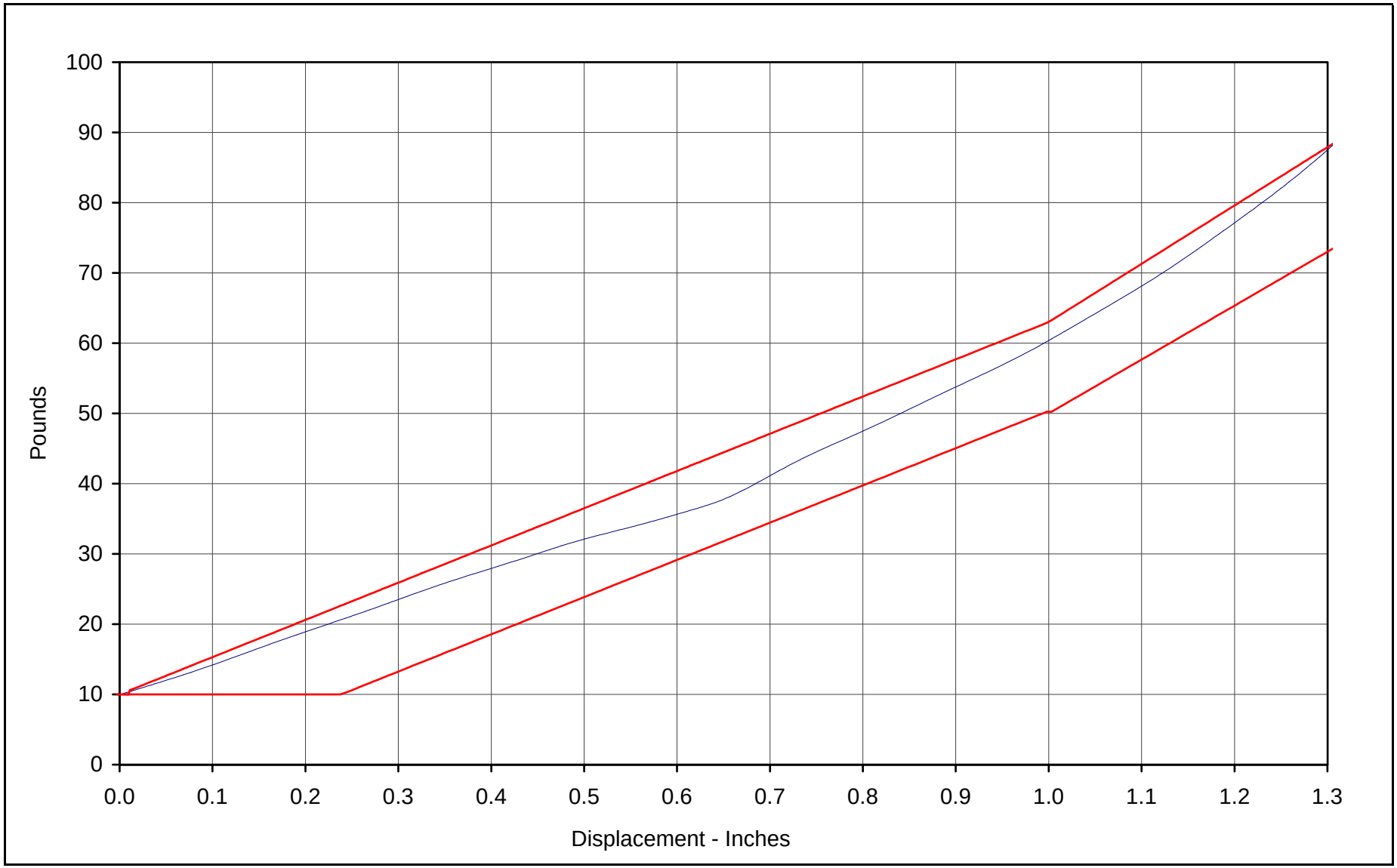
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: AB11C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	32.0	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	44.4	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	60.3	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	87.0	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Abdomen Force vs. Displacement

Test Program: SID Abdominal Compression

Force at 0.5 In.: 32.0 Pounds

Test Information: SID S/N: 274 Test I.D.: AB11C

Force at 0.75 In.: 44.4 Pounds

Force at 1.0 In.: 60.3 Pounds

Force at 1.3 In.: 87.0 Pounds

Date of Test: 11/29/00

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Head Drop Calibration

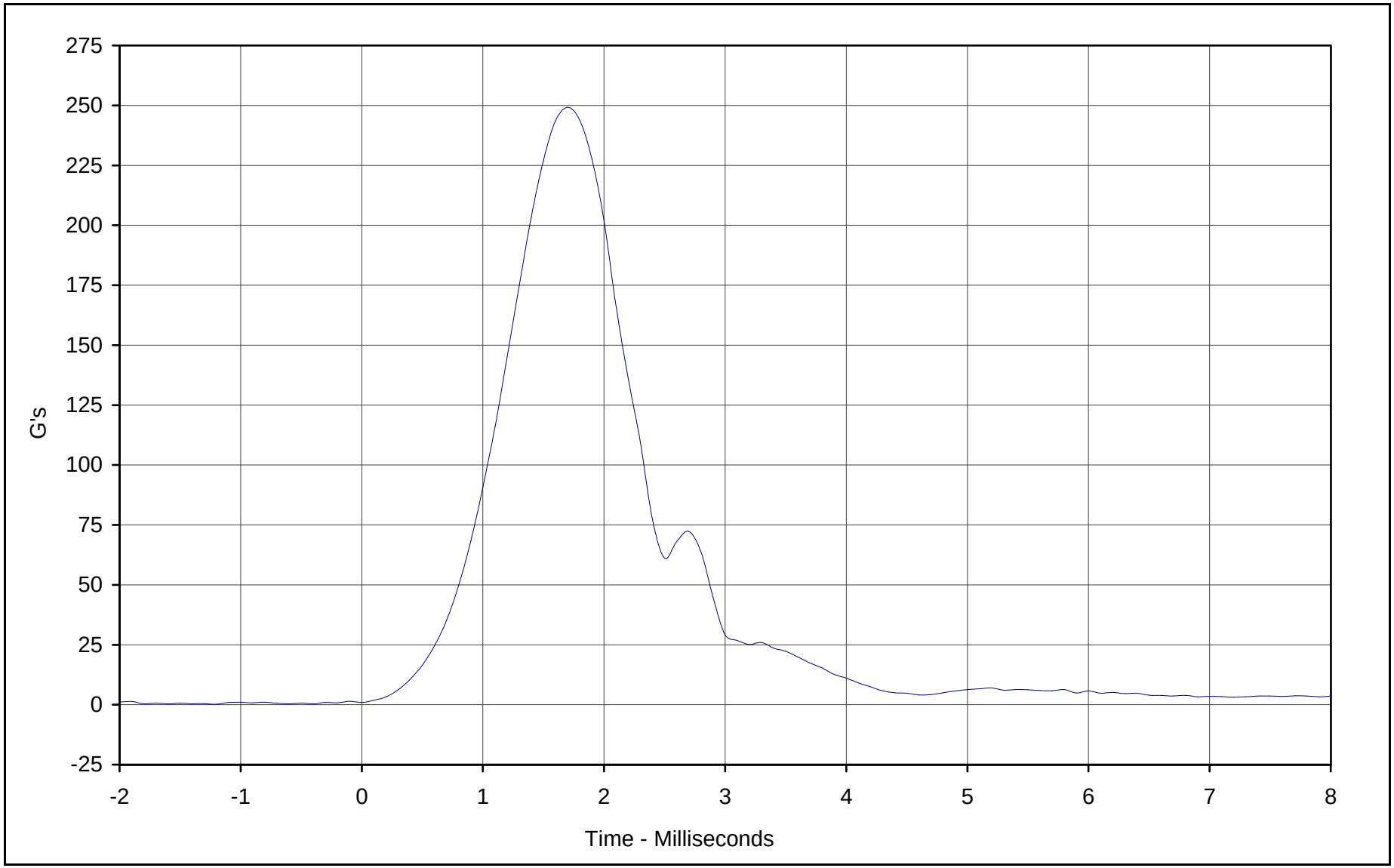
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: HD11E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	249.2	Pass
Peak Lateral Acceleration	G's	≤10.0	4.5	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.3	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Head Resultant Acceleration

Maximum Value: 249.2 at 1.7 Milliseconds

Minimum Value: 1.0 at 0.0 Milliseconds

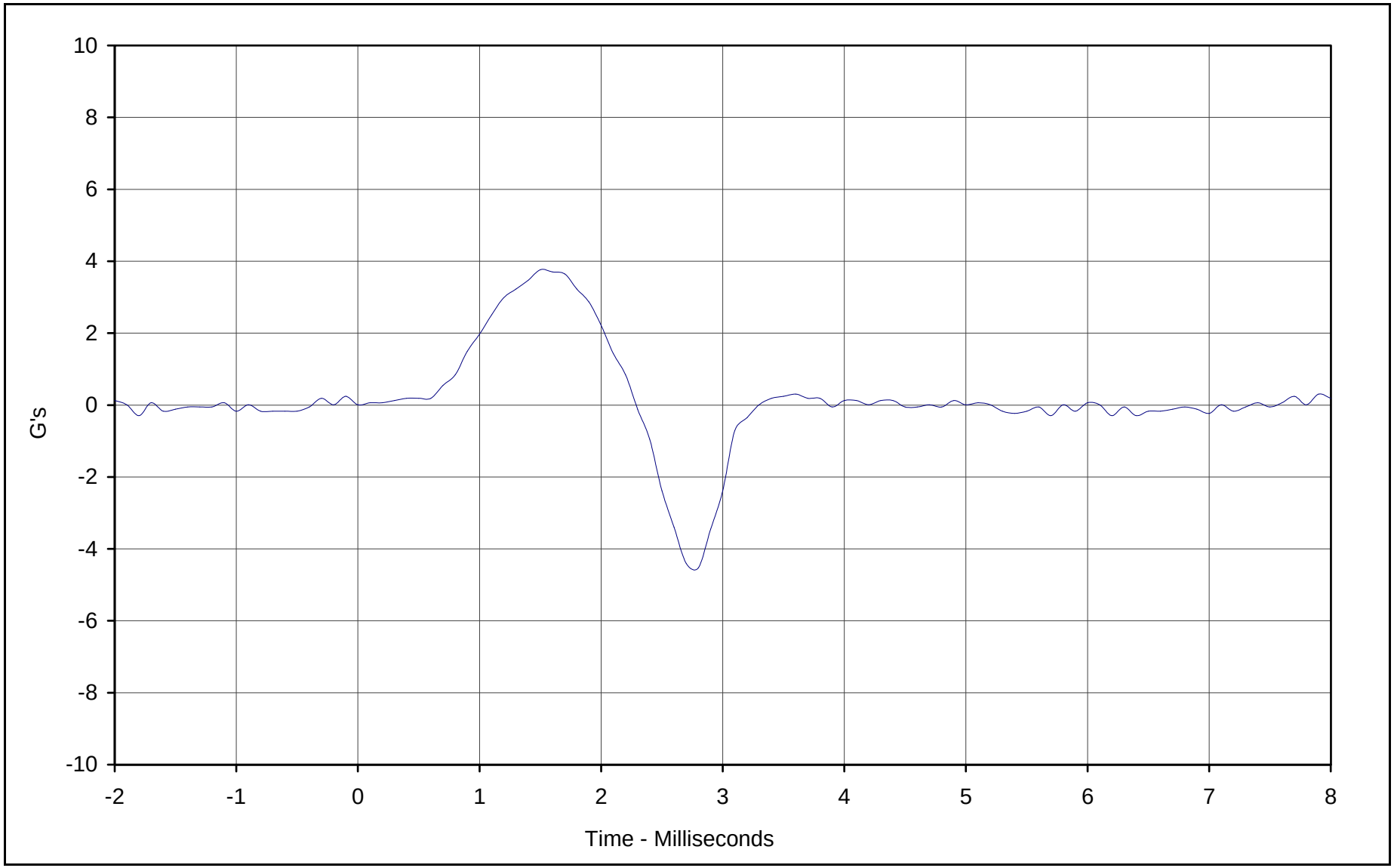
SAE Filter Class: 1000

Date of Test: 11/29/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 274 Test I.D.: HD11E

KARC Engineering



Curve Description:	Head Y Axis Acceleration			Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	3.8	at	1.5 Milliseconds	Test Information:	SID S/N: 274 Test I.D.: HD11E
Minimum Value:	-4.5	at	2.8 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	11/29/00				

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
External Dimensions

ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	^{o}C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	902	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	520	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date

Performance Verification Data
Side Impact Dummy (SID)
Thorax Lateral Impact

ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: TI10C

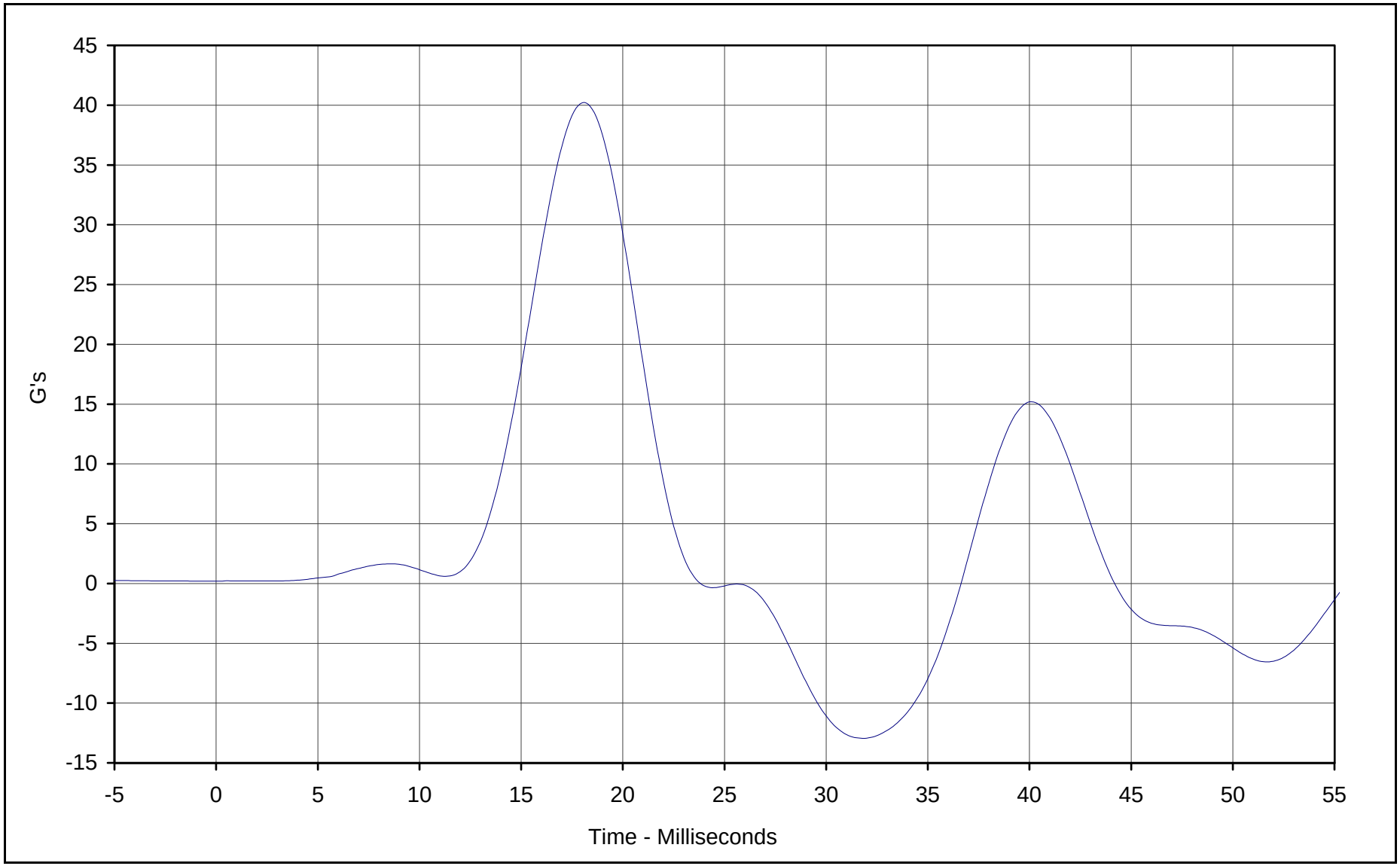
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	40.2	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	39.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	20.5	Pass
		Overall Test Results		Pass

Laboratory Technician

November 29, 2000
Test Date

Approved By

Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 40.2 at 18.1 Milliseconds

Minimum Value: -13.0 at 31.8 Milliseconds

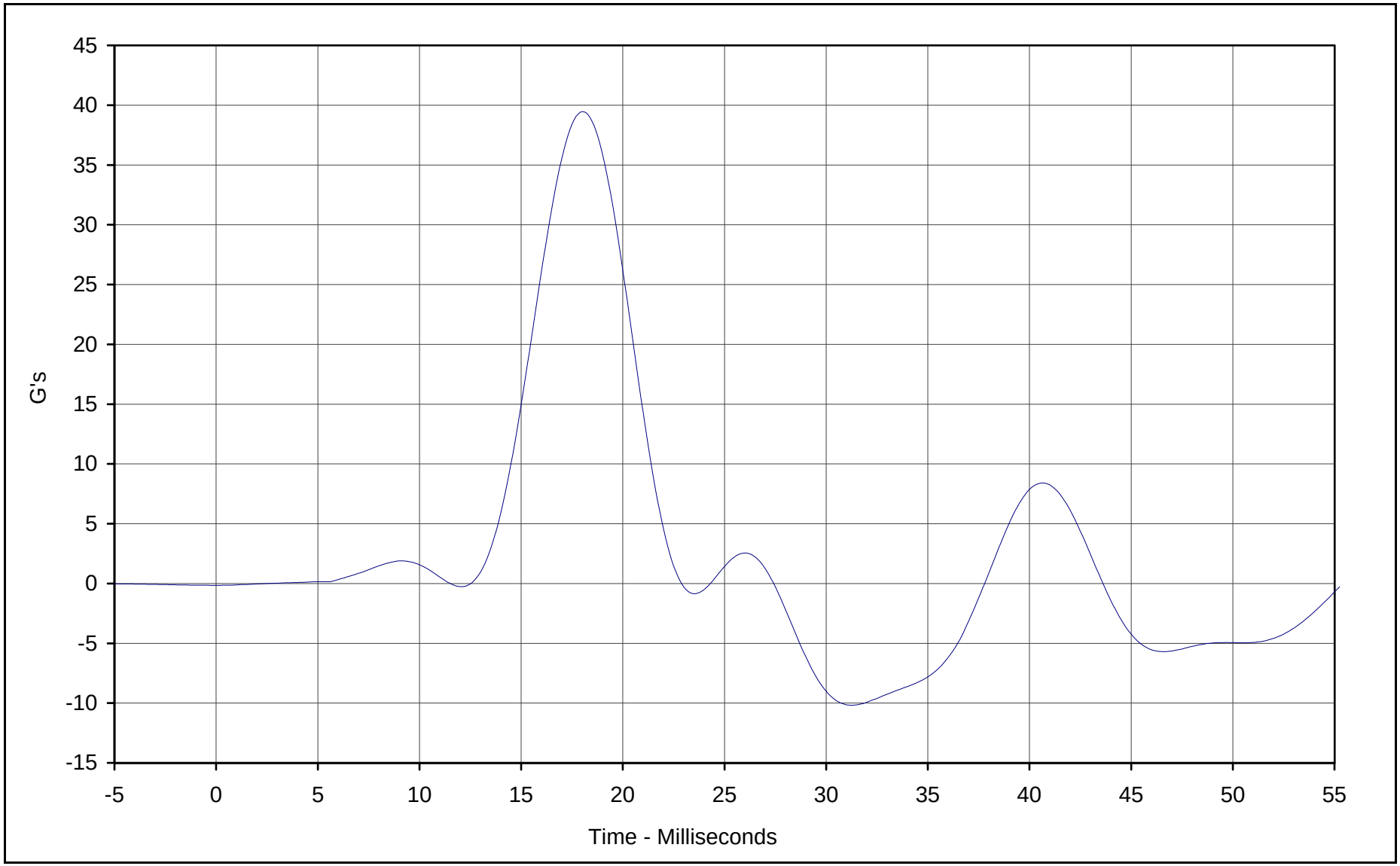
SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10C

KARCO Engineering



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 39.5 at 18.0 Milliseconds

Minimum Value: -10.2 at 31.3 Milliseconds

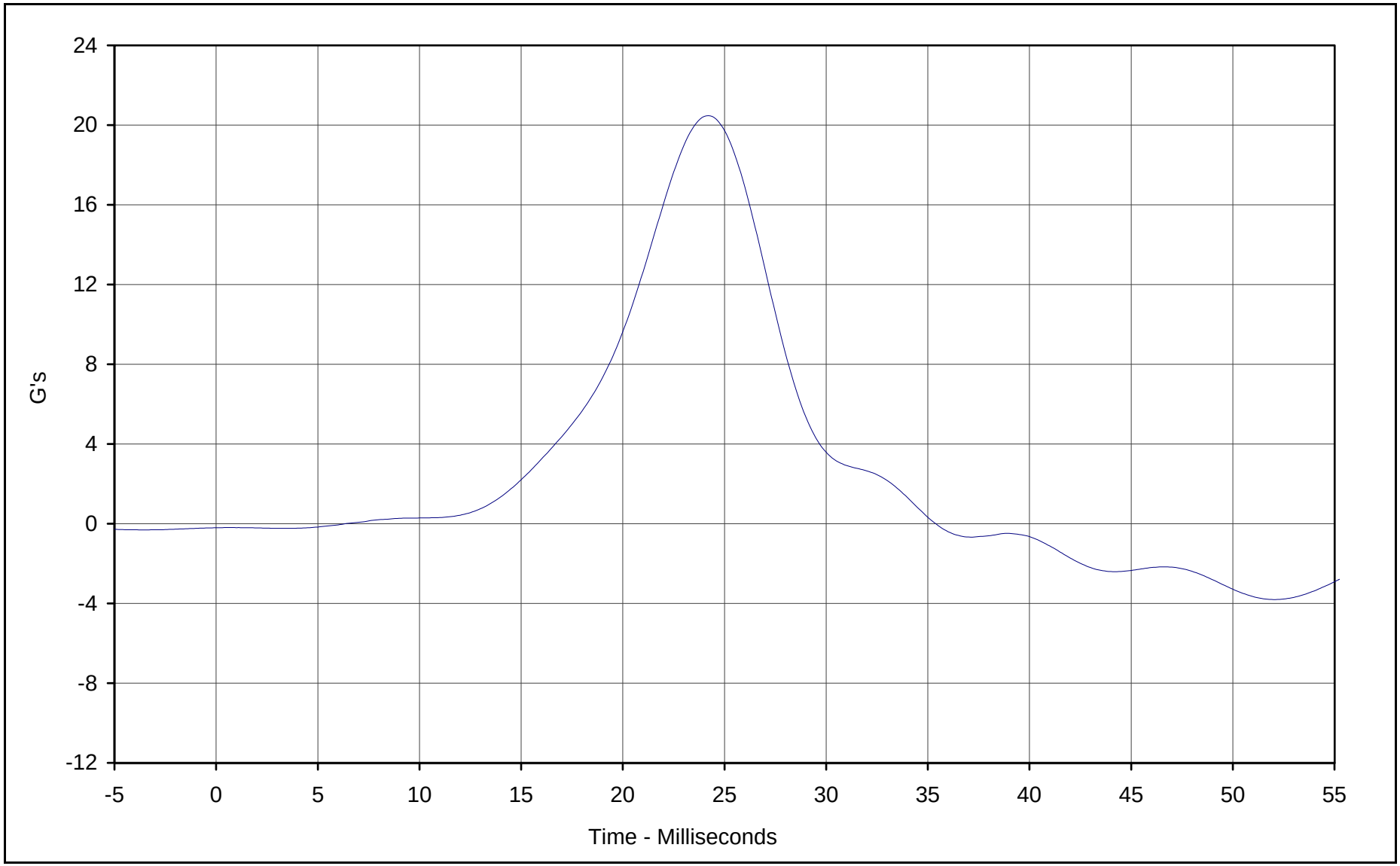
SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10C

KARCO Engineering



Curve Description: Lower Spine Y Acceleration

Maximum Value: 20.5 at 24.2 Milliseconds

Minimum Value: -3.8 at 52.1 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10C

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact

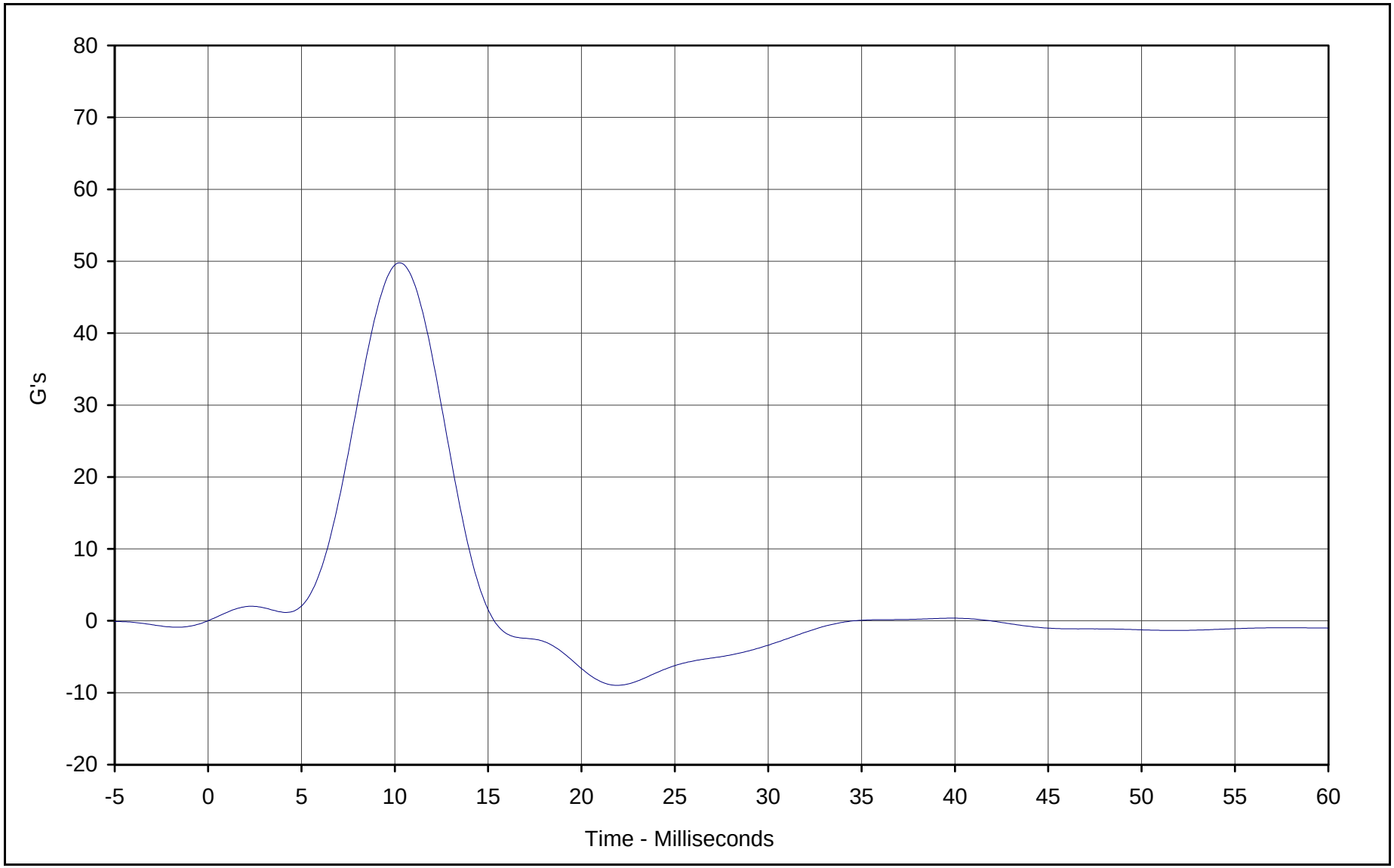
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: PIIIB

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	49.8	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	5.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Pelvis Y Axis Acceleration

Maximum Value: 49.8 at 10.3 Milliseconds

Minimum Value: -9.0 at 21.9 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 11/29/00

Test Program: Left Side Pelvis Lateral Impact

Test Information: SID S/N: 275 Test I.D.: PIIIB

KARCO Engineering

KAR21003-02

Performance Verification Data
Side Impact Dummy (SID)
Abdominal Compression Test

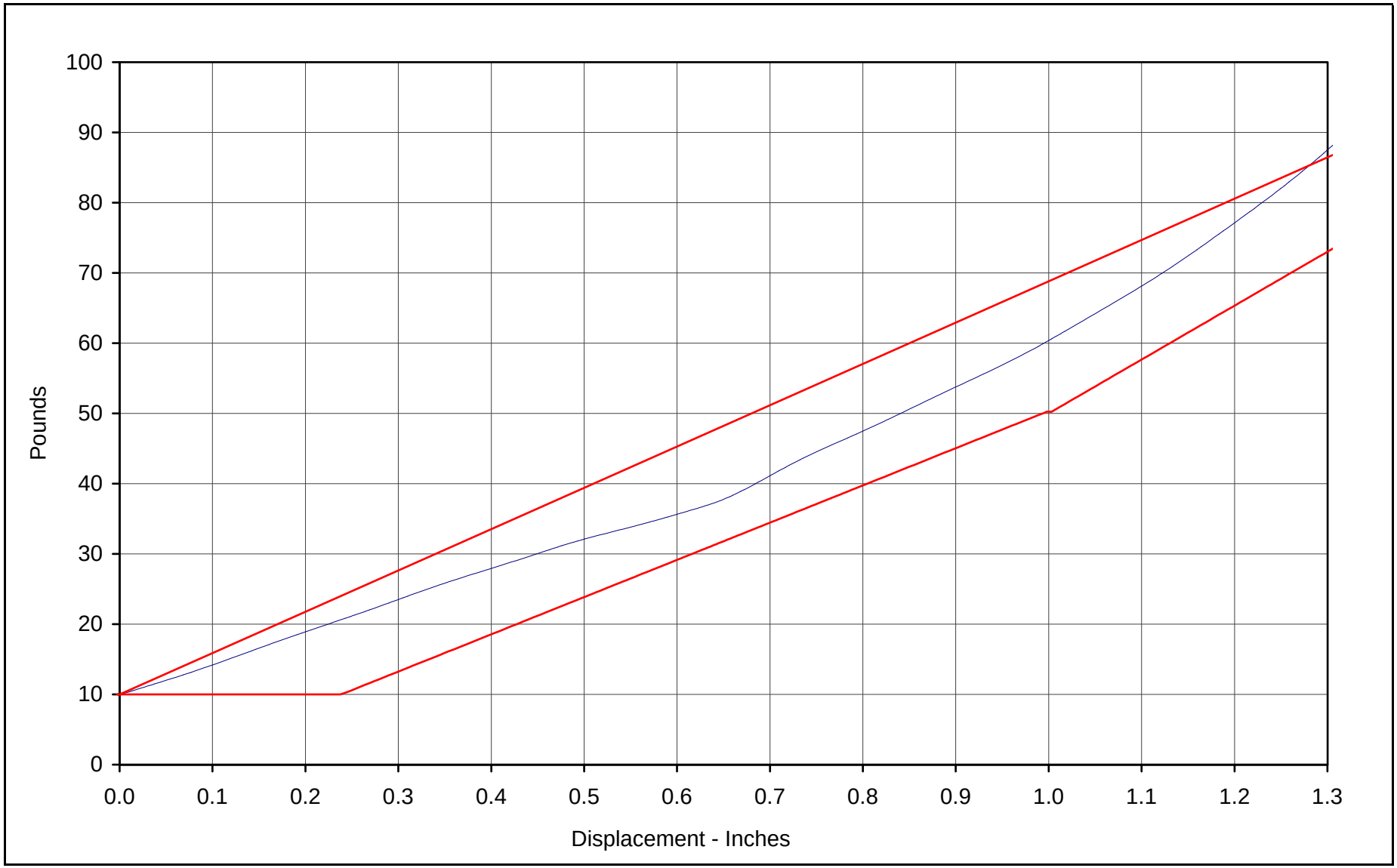
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: AB11D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	32.0	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	44.4	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	60.3	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	87.0	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Abdomen Force vs. Displacement

Test Program: SID Abdominal Compression

Force at 0.5 In.: 32.0 Pounds

Test Information: SID S/N: 275 Test I.D.: AB11D

Force at 0.75 In.: 44.4 Pounds

Force at 1.0 In.: 60.3 Pounds

Force at 1.3 In.: 87.0 Pounds

Date of Test: 11/29/00

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Head Drop Calibration

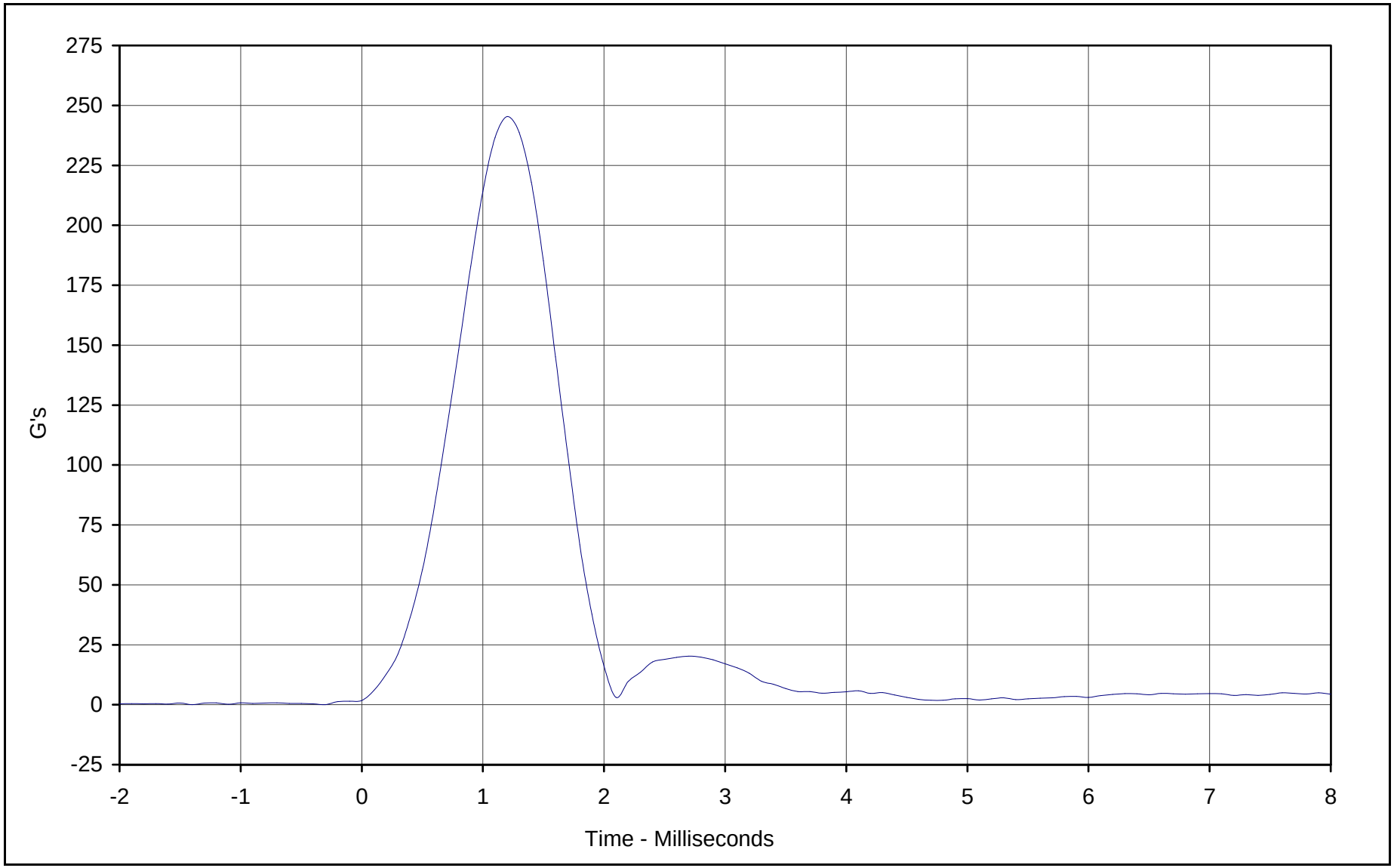
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: HD11C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	245.3	Pass
Peak Lateral Acceleration	G's	≤10.0	1.1	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.1	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

November 29, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Head Resultant Acceleration

Maximum Value: 245.3 at 1.2 Milliseconds

Minimum Value: 1.8 at 0.0 Milliseconds

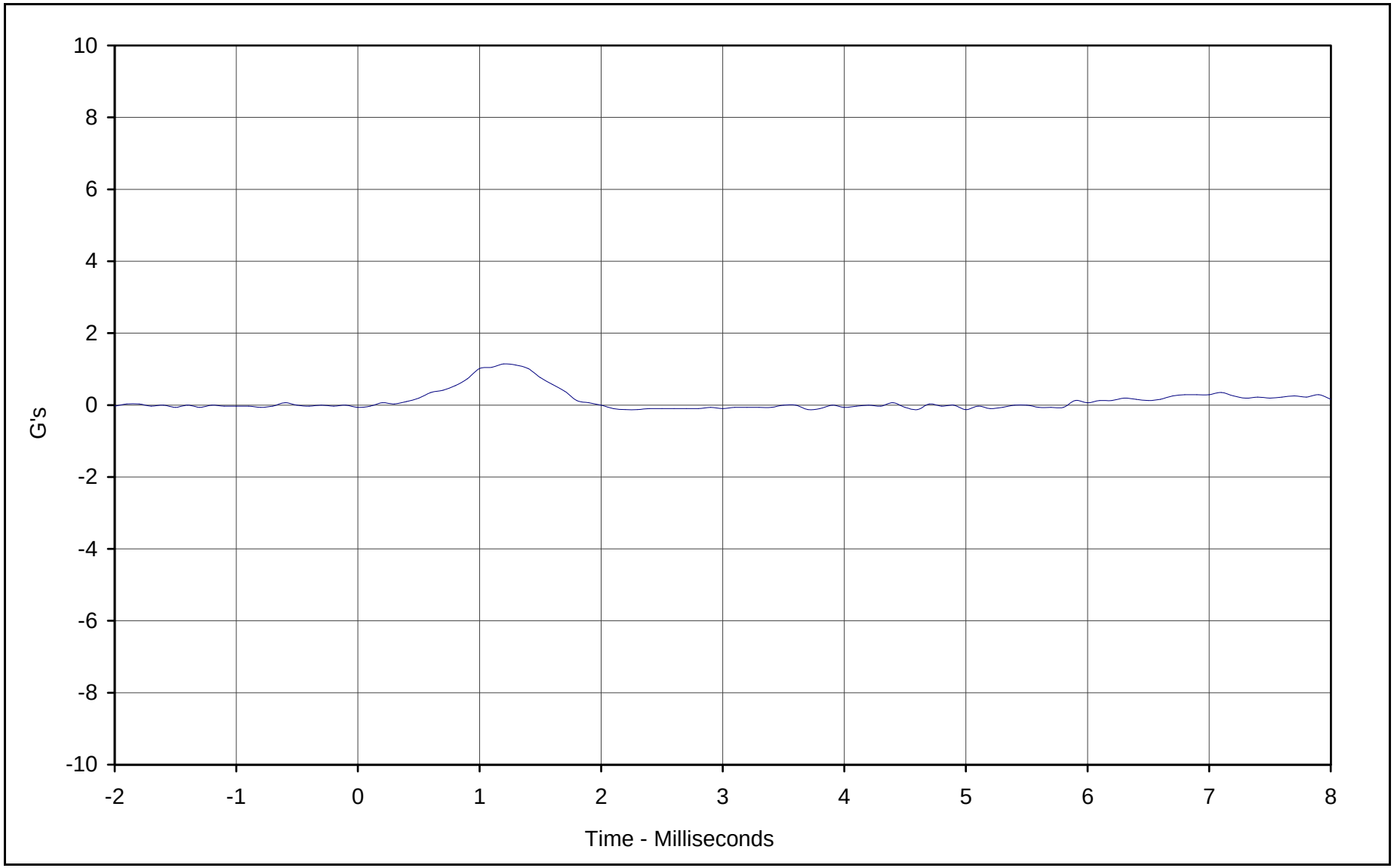
SAE Filter Class: 1000

Date of Test: 11/29/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD11C

KARCO Engineering



Curve Description: Head Y Axis Acceleration

Maximum Value: 1.1 at 1.2 Milliseconds

Minimum Value: -0.1 at 2.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 11/29/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD11C

KARCO Engineering

APPENDIX C
POST-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Performance Verification Data
Side Impact Dummy (SID)
External Dimensions

ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	^{o}C	20.4 to 22.1	20.6	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	521	Pass
KV- Knee Pivot From Floor	mm	490 to 505	501	Pass
HW- Hip Width	mm	356 to 391	363	Pass
		Overall Test Results		Pass

December 4, 2000

Laboratory Technician — Test Date

Approved By — Date

Performance Verification Data
Side Impact Dummy (SID)
Thorax Lateral Impact

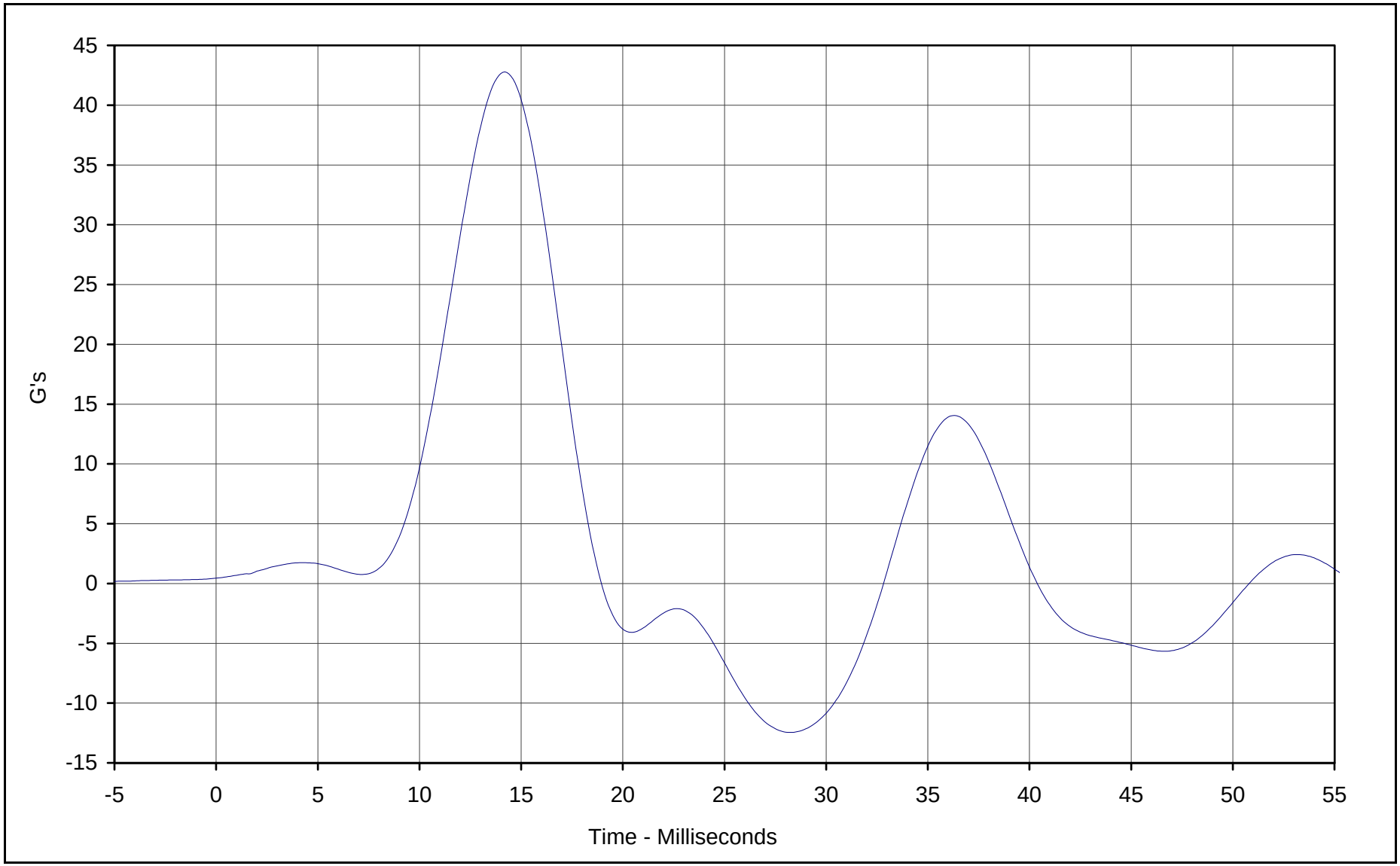
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: TI10D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	42.8	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	41.3	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	20.2	Pass
		Overall Test Results		Pass

December 1, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 42.8 at 14.2 Milliseconds

Minimum Value: -12.5 at 28.3 Milliseconds

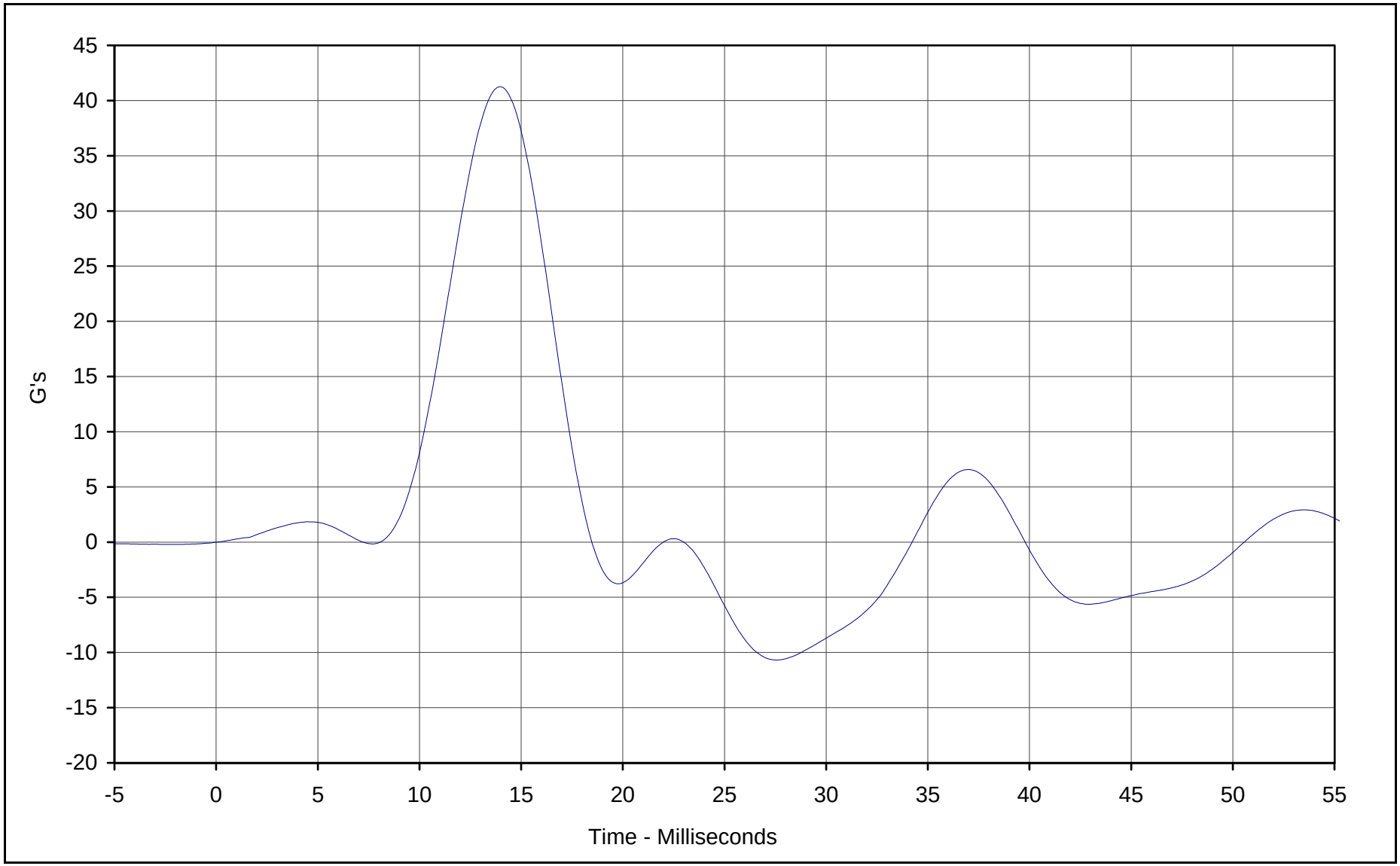
SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10D

KARCO Engineering



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 41.3 at 14.0 Milliseconds

Minimum Value: -10.7 at 27.6 Milliseconds

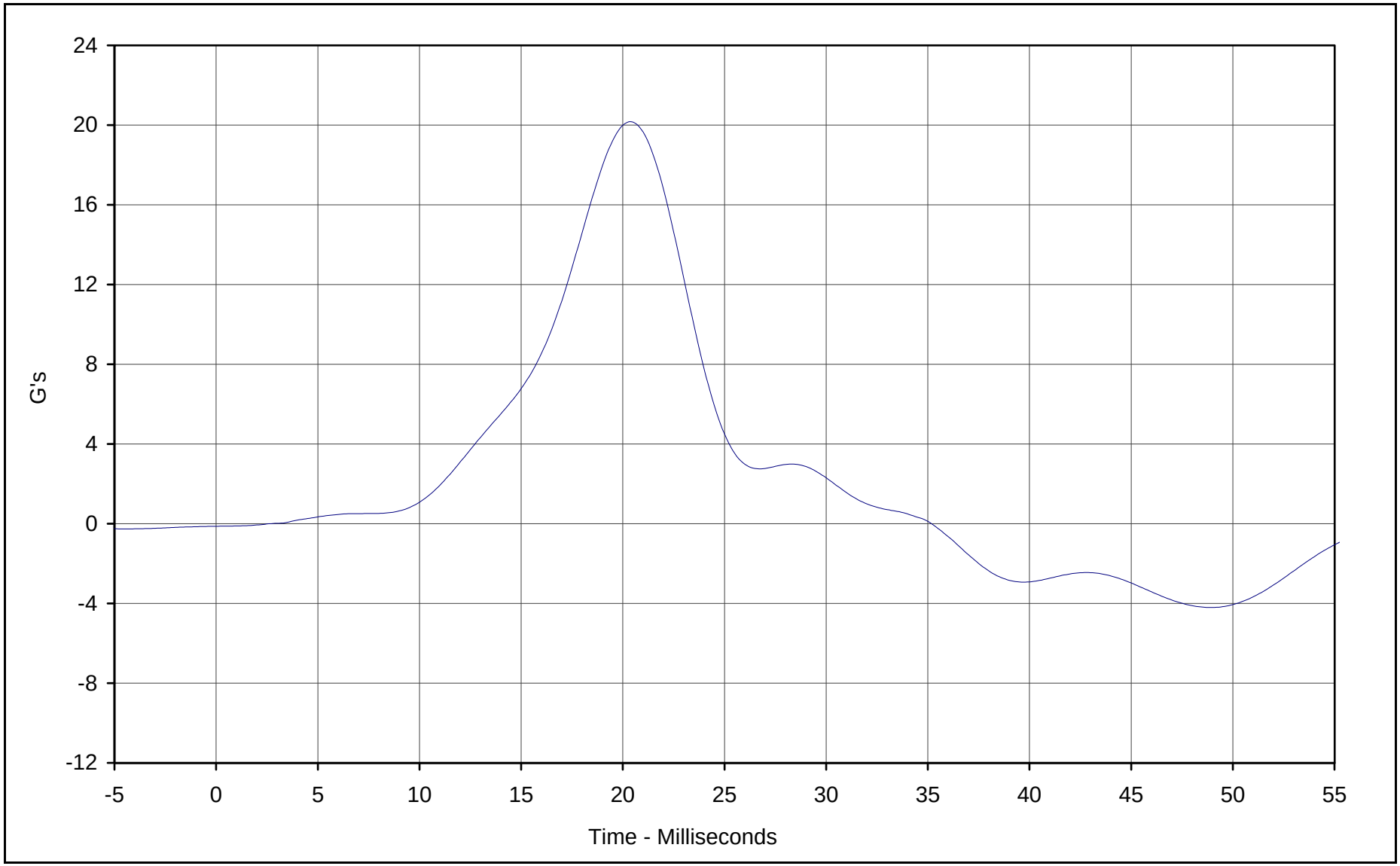
SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10D

KARCO Engineering



Curve Description: Lower Spine Y Acceleration

Maximum Value: 20.2 at 20.4 Milliseconds

Minimum Value: -4.2 at 49.0 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI10D

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact

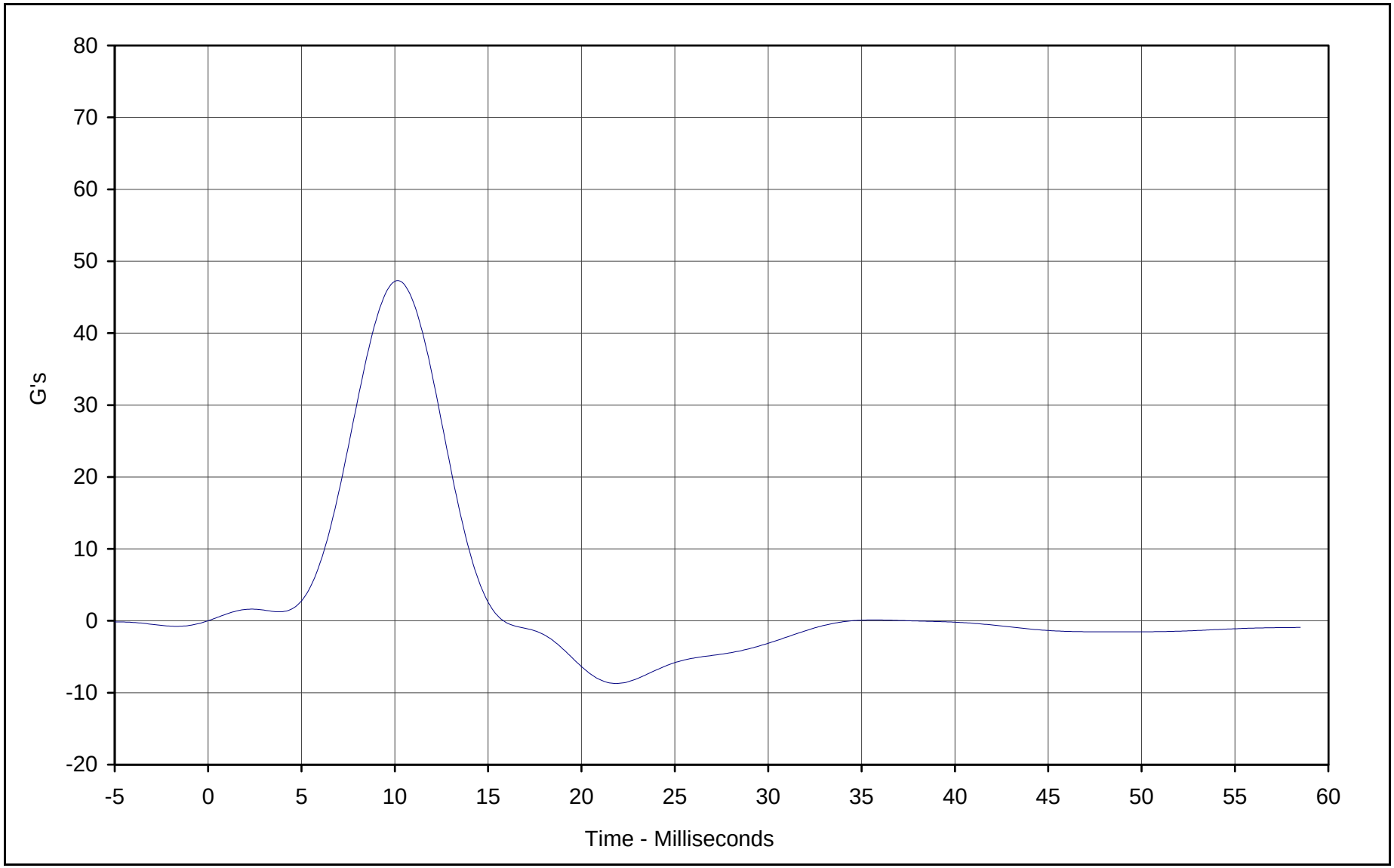
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: PI11C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.26	Pass
Pelvis Acceleration	G's	40.0 to 60.0	47.3	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	5.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

December 1, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Pelvis Y Axis Acceleration

Maximum Value: 47.3 at 10.2 Milliseconds

Minimum Value: -8.7 at 21.9 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: Left Side Pelvis Lateral Impact

Test Information: SID S/N: 274 Test I.D.: PI11C

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Abdominal Compression Test

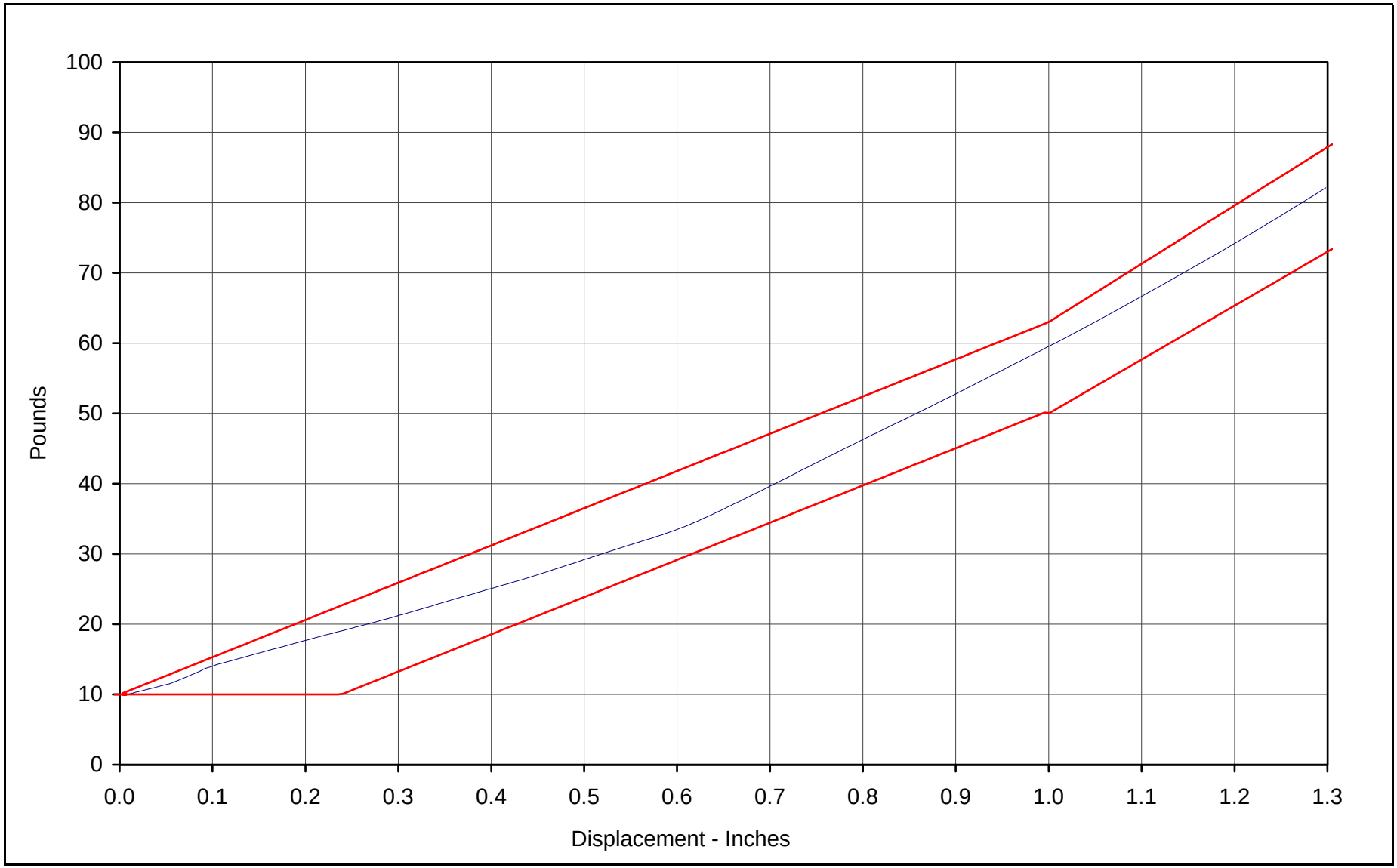
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: AB12A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	29.1	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	42.8	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	59.2	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	82.1	Pass
		Overall Test Results		Pass

December 2, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Abdomen Force vs. Displacement

Test Program: Hybrid II Abdominal Compression

Force at 0.5 In.: 29.1 Pounds

Test Information: SID S/N: 274 Test I.D.: AB12A

Force at 0.75 In.: 42.8 Pounds

Force at 1.0 In.: 59.2 Pounds

Force at 1.3 In.: 82.1 Pounds

Date of Test: 12/2/00

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Head Drop Calibration

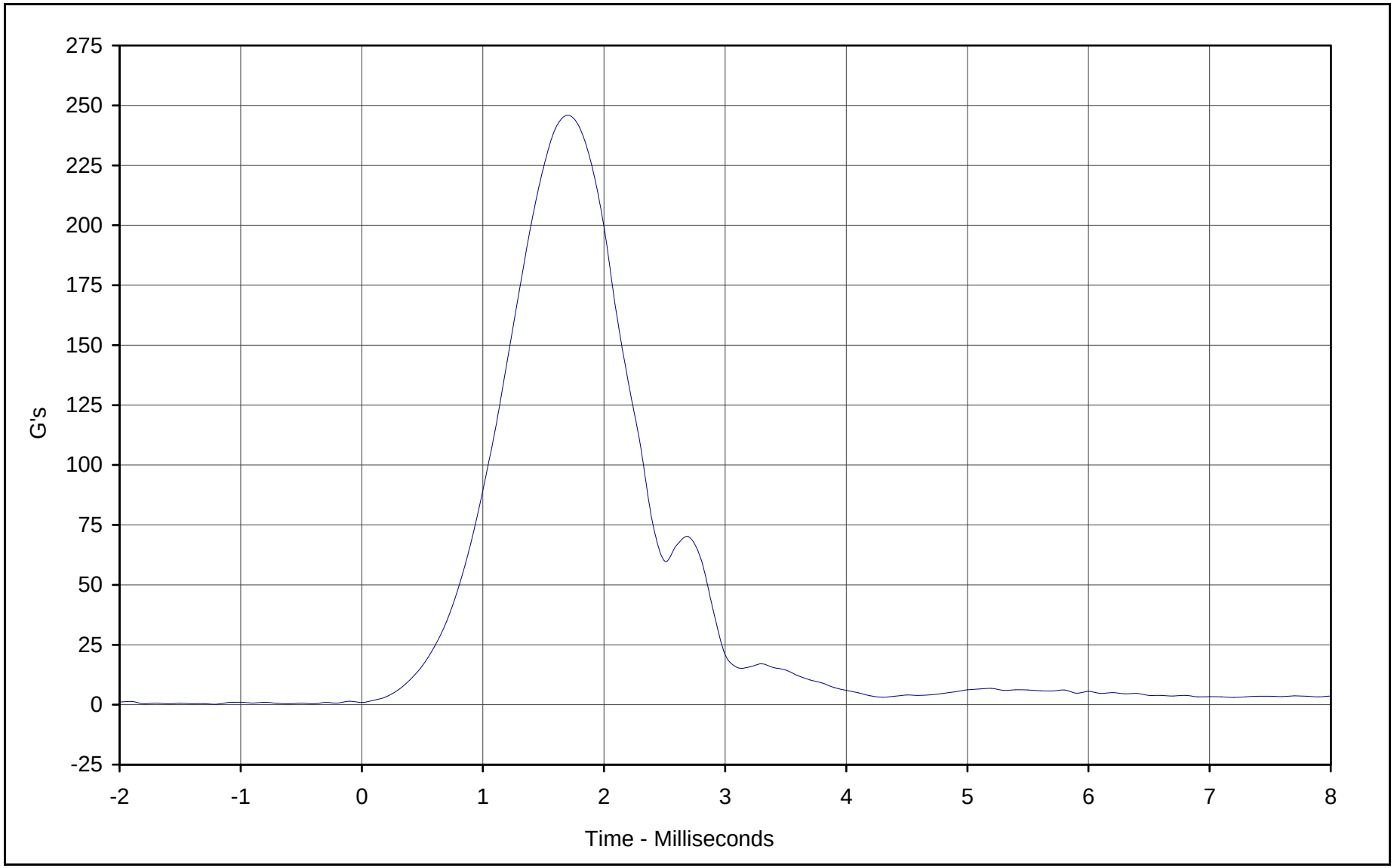
ATD Serial No.: 274 Part Serial No.: N/A Test I.D.: HD12A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	246.0	Pass
Peak Lateral Acceleration	G's	≤10.0	4.4	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.3	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

December 2, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Head Resultant Acceleration

Maximum Value: 246.0 at 1.7 Milliseconds

Minimum Value: 1.0 at 0.0 Milliseconds

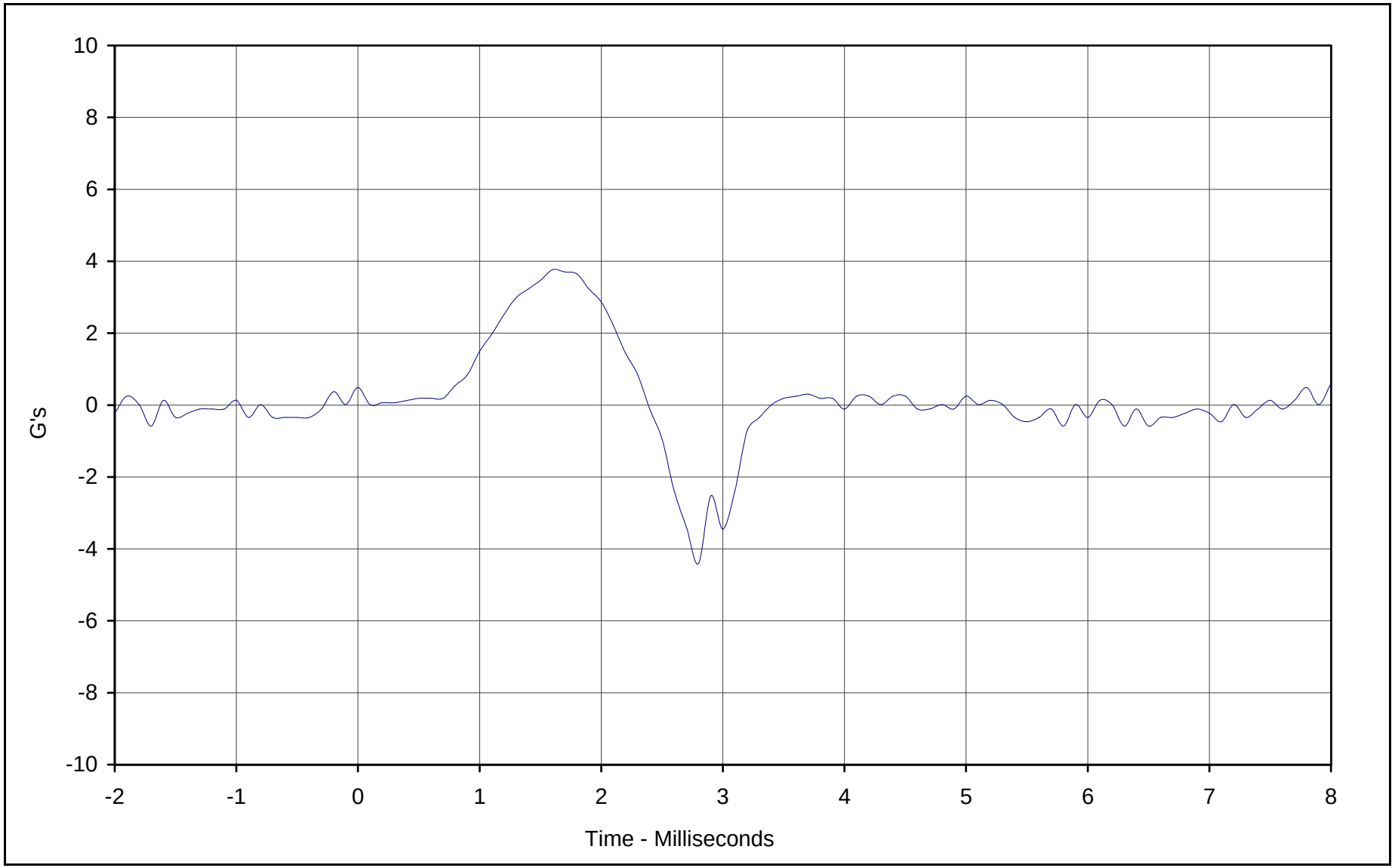
SAE Filter Class: 1000

Date of Test: 12/2/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 274 Test I.D.: HD12A

KARC Engineering



Curve Description:	Head Y Axis Acceleration			Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	3.8	at	1.6 Milliseconds	Test Information:	SID S/N: 274 Test I.D.: HD12A
Minimum Value:	-4.4	at	2.8 Milliseconds		
SAE Filter Class:	1000				
Date of Test:	12/2/00				

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
External Dimensions

ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	^{o}C	20.4 to 22.1	20.6	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	905	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	515	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	520	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
		Overall Test Results		Pass

December 4, 2000

Laboratory Technician — Test Date

Approved By — Date

Performance Verification Data
Side Impact Dummy (SID)
Thorax Lateral Impact

ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: TI10E

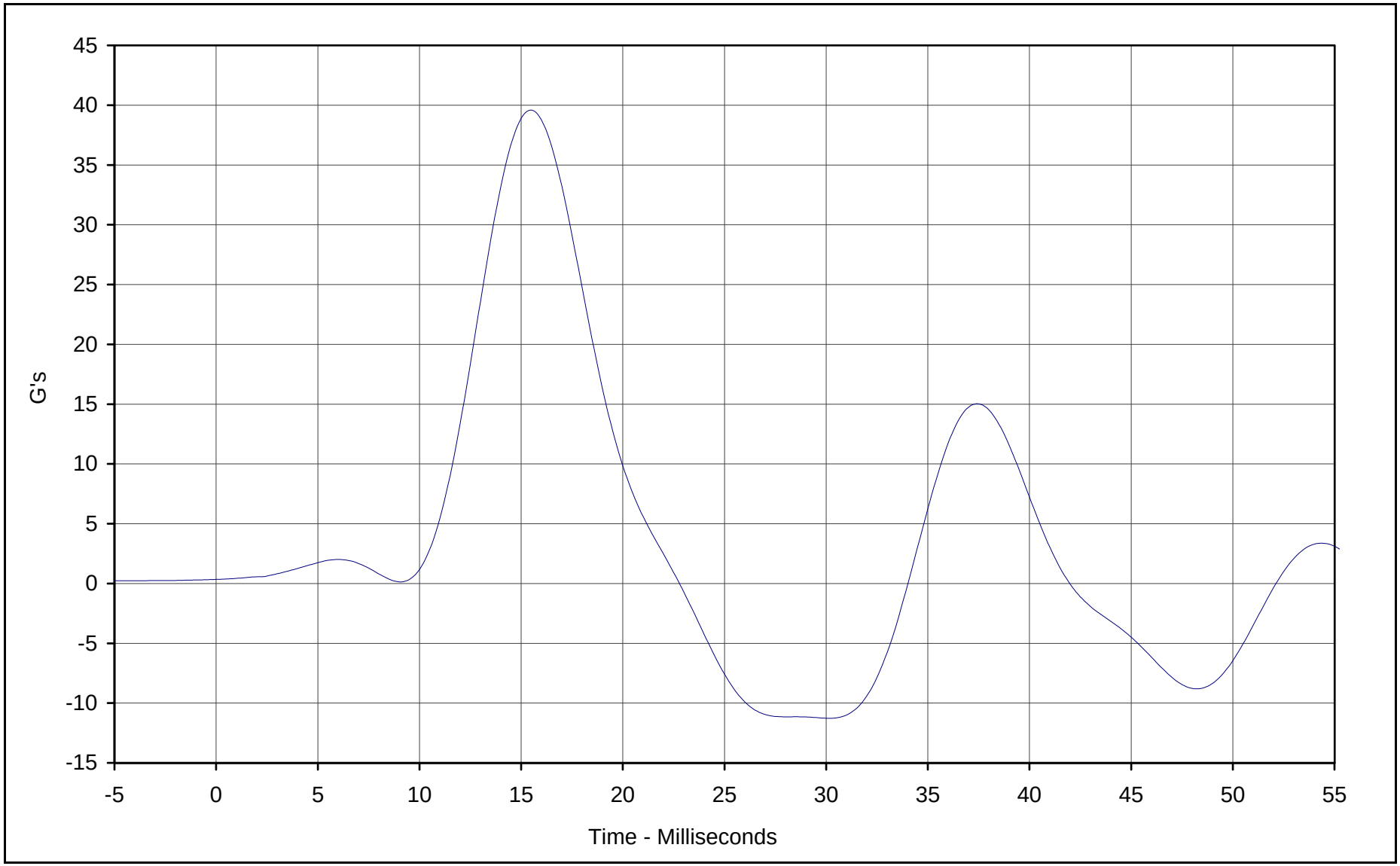
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	39.6	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	39.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	20.5	Pass
		Overall Test Results		Pass

Laboratory Technician

December 1, 2000
Test Date

Approved By

Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 39.6 at 15.5 Milliseconds

Minimum Value: -11.3 at 30.2 Milliseconds

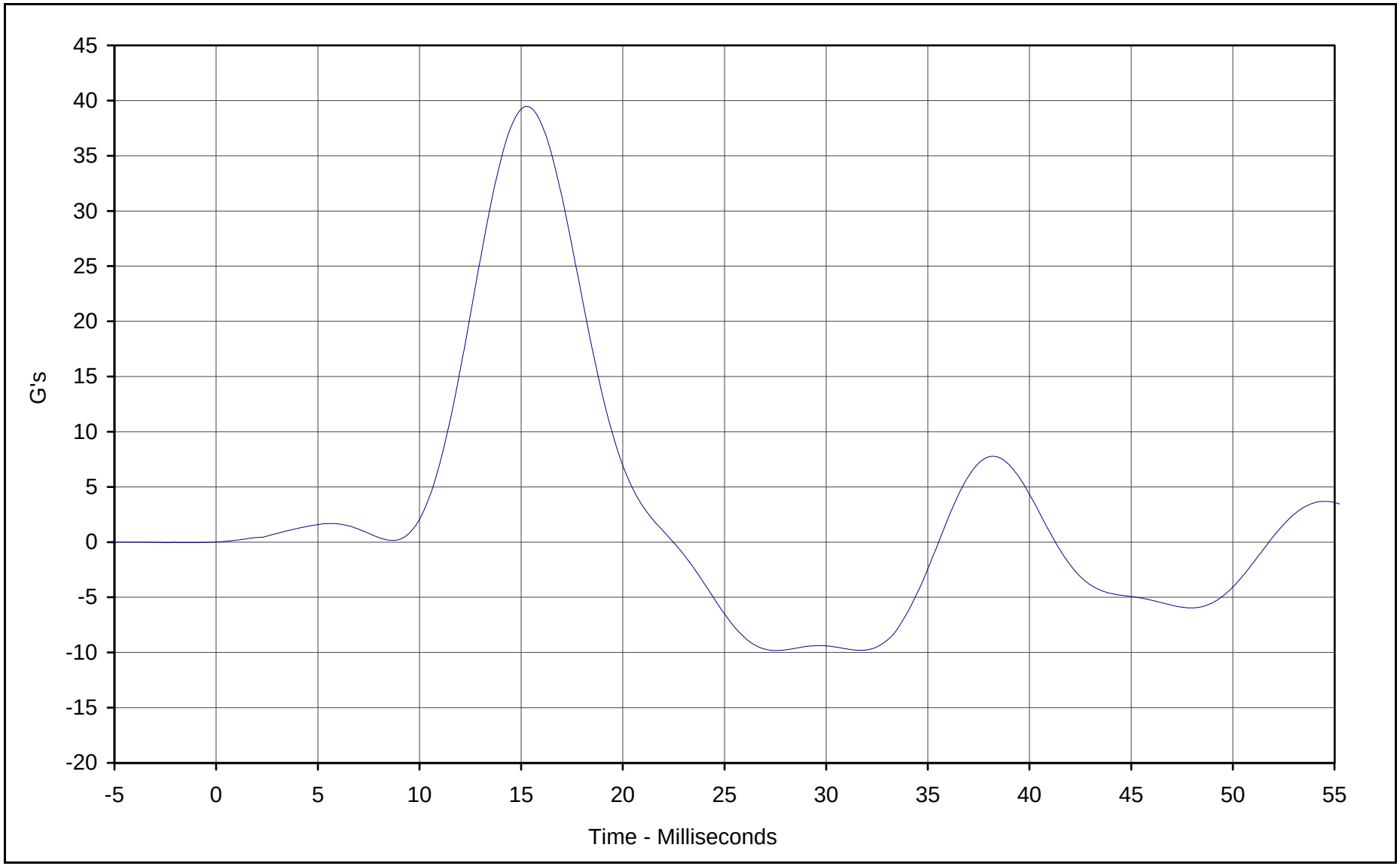
SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10E

KARCO Engineering



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 39.5 at 15.3 Milliseconds

Minimum Value: -9.8 at 27.5 Milliseconds

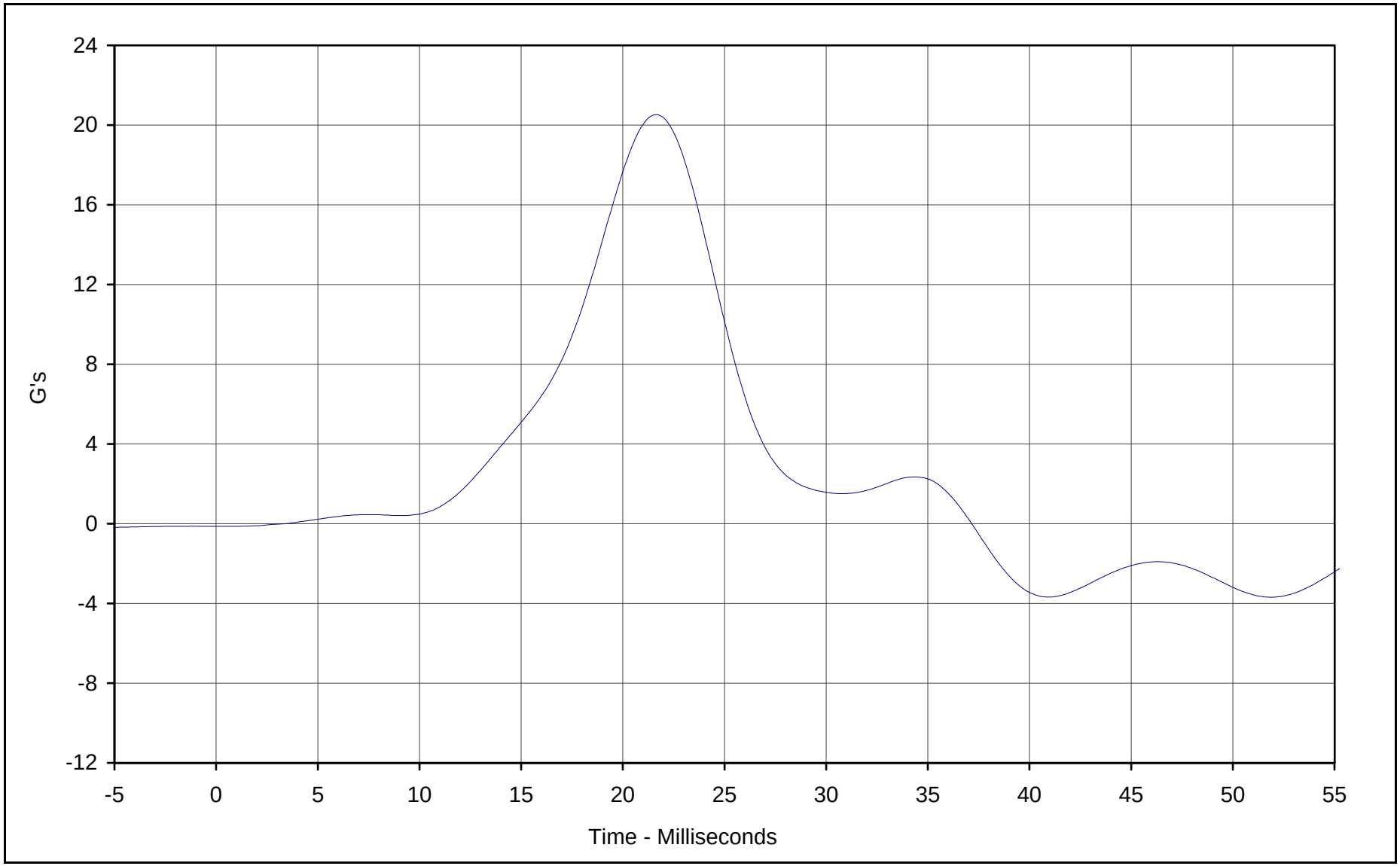
SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10E

KARCO Engineering



Curve Description: Lower Spine Y Acceleration

Maximum Value: 20.5 at 21.6 Milliseconds

Minimum Value: -3.7 at 51.9 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI10E

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact

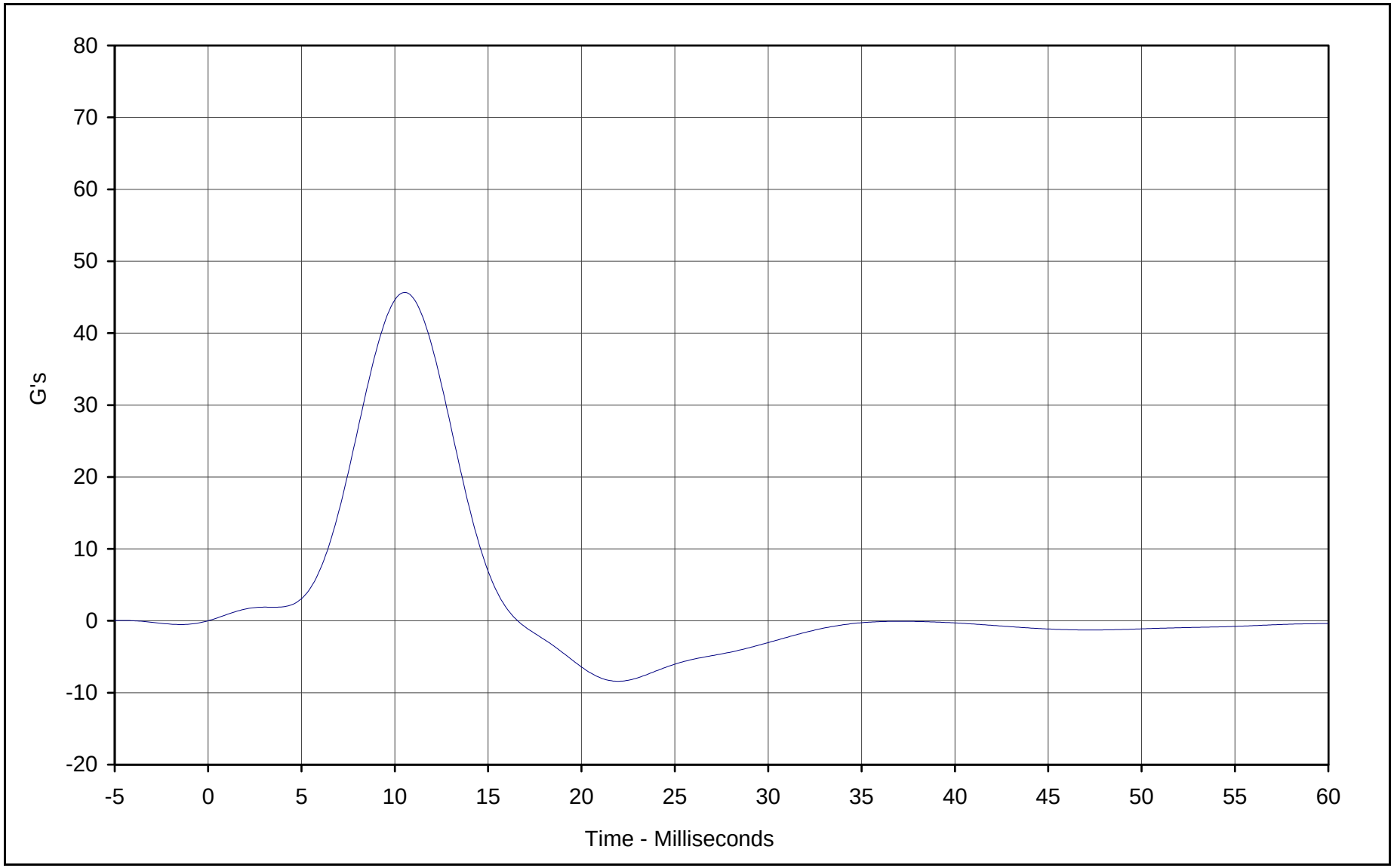
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: PI11D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.28	Pass
Pelvis Acceleration	G's	40.0 to 60.0	45.7	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

December 1, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Pelvis Y Axis Acceleration

Maximum Value: 45.7 at 10.5 Milliseconds

Minimum Value: -8.4 at 22.0 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/1/00

Test Program: Left Side Pelvis Lateral Impact

Test Information: SID S/N: 275 Test I.D.: PI11D

KARCO Engineering

KAR21003-02

Performance Verification Data
Side Impact Dummy (SID)
Abdominal Compression Test

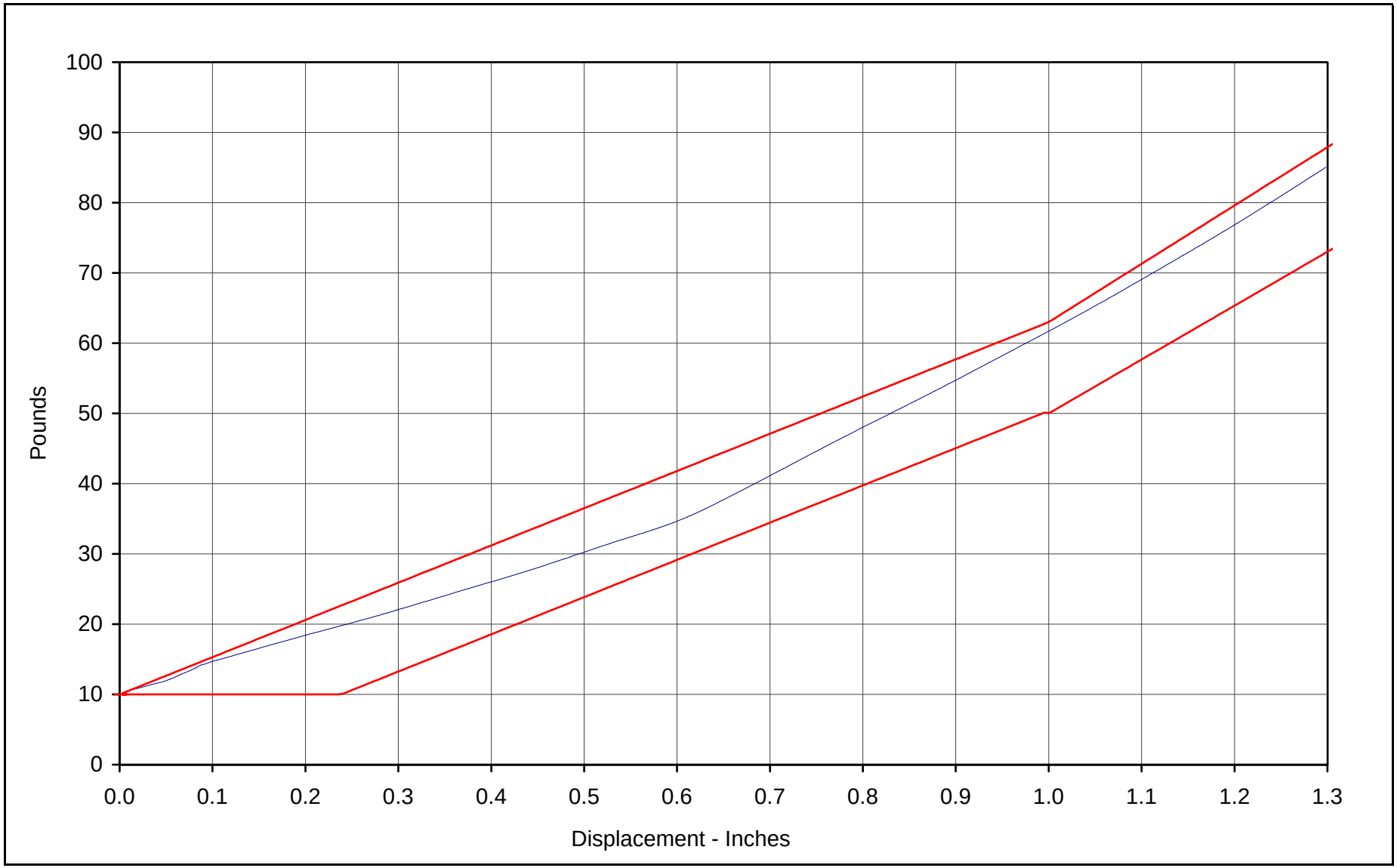
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: AB12B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	30.2	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	44.5	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	61.4	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	85.0	Pass
		Overall Test Results		Pass

December 2, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Abdomen Force vs. Displacement

Test Program: Hybrid II Abdominal Compression

Force at 0.5 In.: 30.2 Pounds

Test Information: SID S/N: 275 Test I.D.: AB12B

Force at 0.75 In.: 44.5 Pounds

Force at 1.0 In.: 61.4 Pounds

Force at 1.3 In.: 85.0 Pounds

Date of Test: 12/2/00

KARCO Engineering

Performance Verification Data
Side Impact Dummy (SID)
Head Drop Calibration

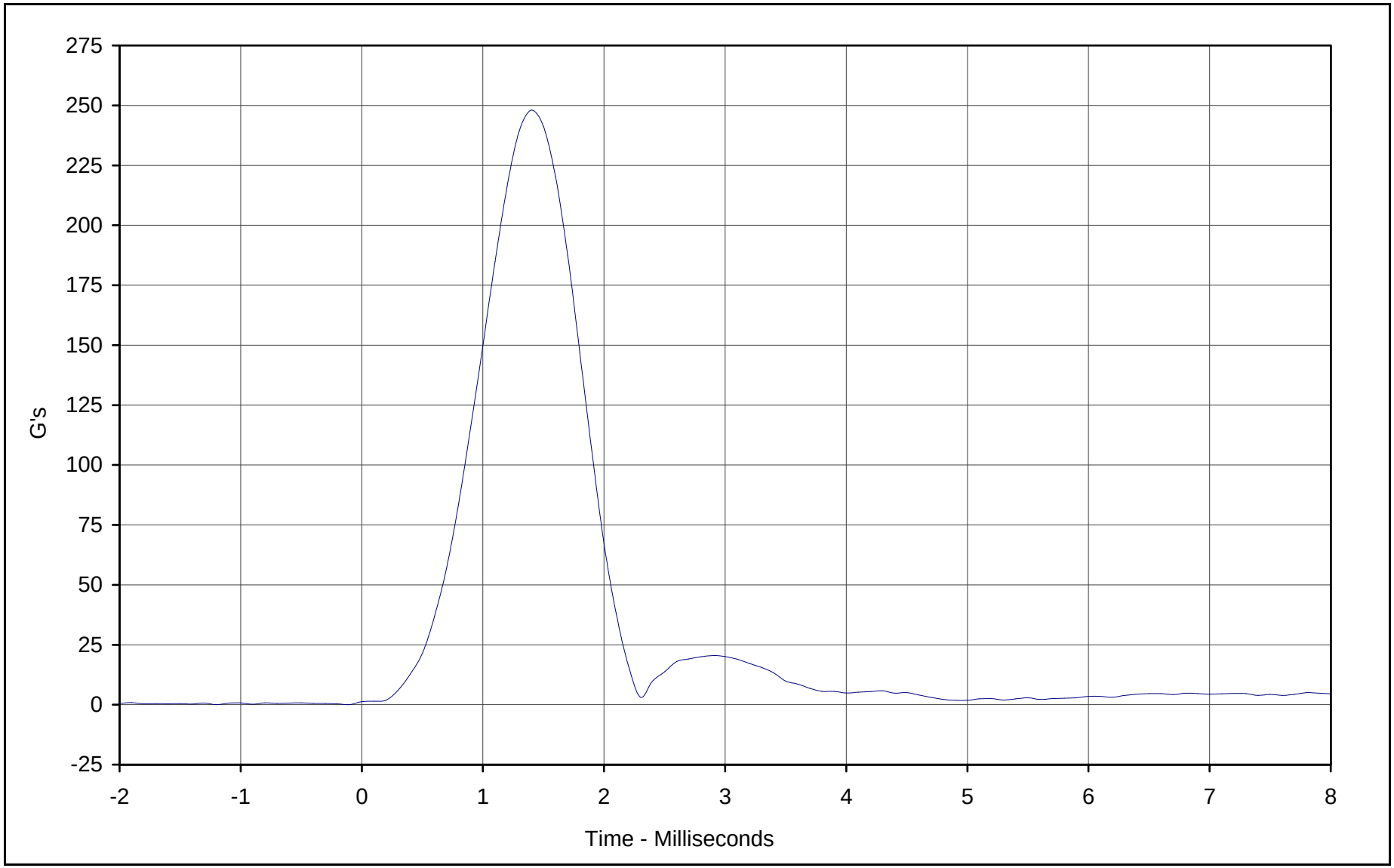
ATD Serial No.: 275 Part Serial No.: N/A Test I.D.: HD12B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	248.1	Pass
Peak Lateral Acceleration	G's	≤10.0	7.8	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.1	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

December 2, 2000

Laboratory Technician — Test Date

Approved By — Date



Curve Description: Head Resultant Acceleration

Maximum Value: 248.1 at 1.4 Milliseconds

Minimum Value: 1.3 at 0.0 Milliseconds

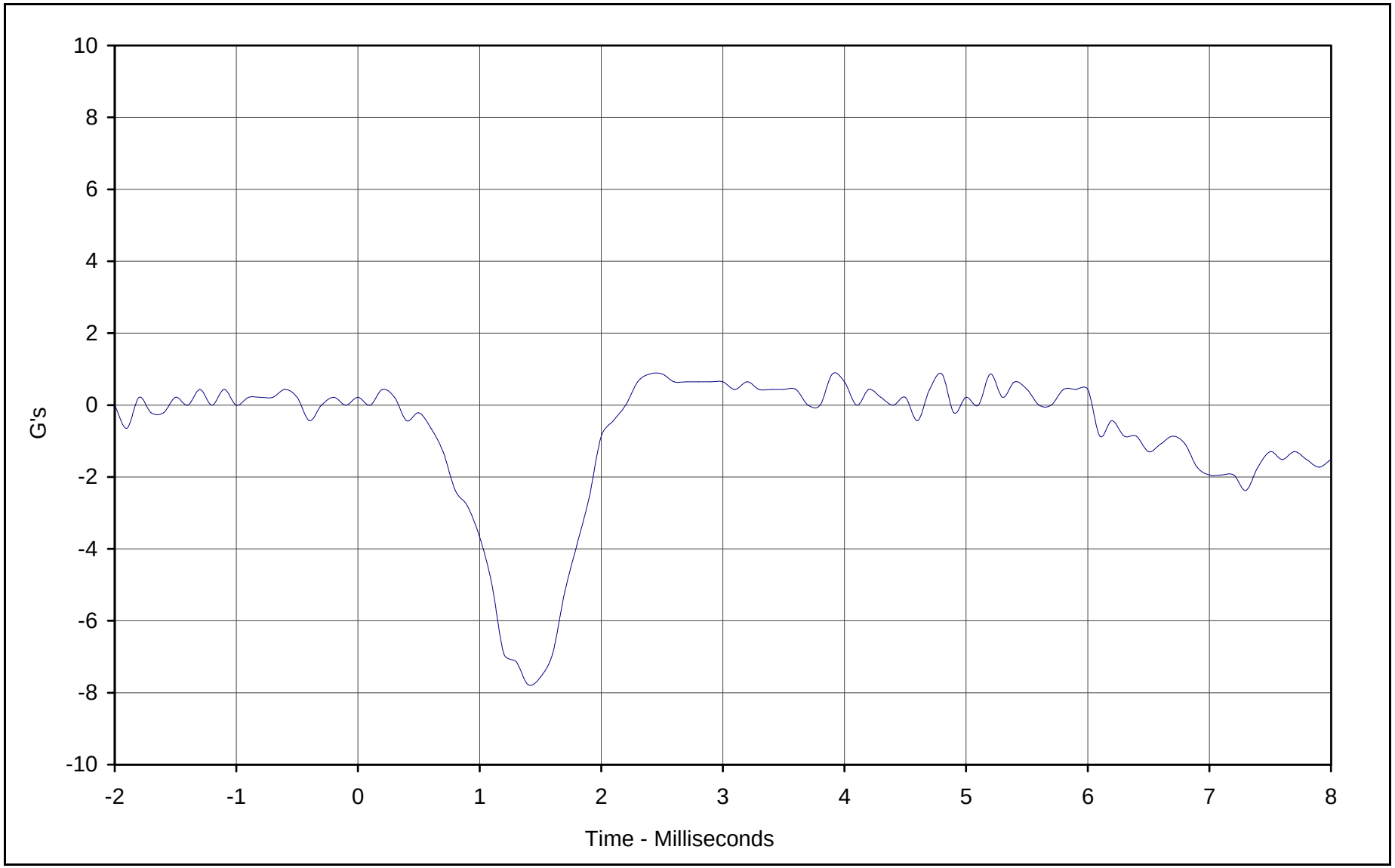
SAE Filter Class: 1000

Date of Test: 12/2/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD12B

KARCO Engineering



Curve Description: Head Y Axis Acceleration

Maximum Value: 0.9 at 2.4 Milliseconds

Minimum Value: -7.8 at 1.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 12/2/00

Test Program: Hybrid II Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD12B

KARCO Engineering

APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

55/28 km/h Side Impact NCAP

Instrumentation Data Channel Assignments

Driver S.I.D. Serial Number 274

11/30/00

2001 Ford Explorer XLT 4WD SUV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	Head CG	X	KEAC086	Accel.,1/2 bridge	Endevco	7264-2000X	G
2	Head CG	Y	KEAC087	Accel.,1/2 bridge	Endevco	7264-2000Y	G
3	Head CG	Z	KEAC088	Accel.,1/2 bridge	Endevco	7264-2000Z	G
4	Upper Rib Primary	Y	KEAC070	Accel.,1/2 bridge	Endevco	7264-2000X	G
5	Lower Rib, Primary	Y	KEAC071	Accel.,1/2 bridge	Endevco	7264-2000Y	G
6	Lower Spine, Primary	Y	KEAC072	Accel.,1/2 bridge	Endevco	7264-2000Z	G
7	Pelvis, Primary	Y	KEAC090	Accel.,Full bridge	Endevco	7264-2000X	G
8	Upper Rib Redundant	Y	KEAC076	Accel.,1/2 bridge	Endevco	7264-2000X	G
9	Lower Rib, Redundant	Y	KEAC077	Accel.,1/2 bridge	Endevco	7264-2000Y	G
10	Lower Spine, Redundant	Y	KEAC078	Accel.,1/2 bridge	Endevco	7264-2000Z	G
11	Pelvis, Redundant	Y	KEAC089	Accel.,1/2 bridge	Endevco	7264-2000X	G
12	Thorax Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%
13	Pelvis Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%

55/28 km/h Side Impact NCAP

Instrumentation Data Channel Assignments

Passenger S.I.D. Serial Number 275

11/30/00

2001 Ford Explorer XLT 4WD SUV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
14	Head CG	X	KEAC069	Accel.,1/2 bridge	Endevco	7264-2000X	G
15	Head CG	Y	KEAC080	Accel.,1/2 bridge	Endevco	7264-2000Y	G
16	Head CG	Z	KEAC082	Accel.,1/2 bridge	Endevco	7264-2000Z	G
17	Upper Rib Primary	Y	KEAC066	Accel.,1/2 bridge	Endevco	7264-2000X	G
18	Lower Rib, Primary	Y	KEAC067	Accel.,1/2 bridge	Endevco	7264-2000Y	G
19	Lower Spine, Primary	Y	KEAC068	Accel.,1/2 bridge	Endevco	7264-2000Z	G
20	Pelvis, Primary	Y	KEAC079	Accel.,1/2 bridge	Endevco	7264-2000X	G
21	Upper Rib Redundant	Y	KEAC073	Accel.,1/2 bridge	Endevco	7264-2000X	G
22	Lower Rib, Redundant	Y	KEAC074	Accel.,1/2 bridge	Endevco	7264-2000Y	G
23	Lower Spine, Redundant	Y	KEAC075	Accel.,1/2 bridge	Endevco	7264-2000Z	G
24	Pelvis, Redundant	Y	KEAC081	Accel.,1/2 bridge	Endevco	7264-2000X	G
25	Thorax Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Grey	%
26	Pelvis Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Grey	%

55/28 km/h Side Impact NCAP

Instrumentation Data Channel Assignments

Vehicle Accelerometers

11/30/00

2001 Ford Explorer XLT 4WD SUV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
27	Right at Sill Front Seat	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
28	Right at Sill Front Seat	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
29	Right at Sill Front Seat	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G
30	Right at Sill Rear Seat	X	KETX3A	Accel., Triax	I.C. Sensor	3031-500	G
31	Right at Sill Rear Seat	Y	KETX3B	Accel., Triax	I.C. Sensor	3031-500	G
32	Right at Sill Rear Seat	Z	KETX3C	Accel., Triax	I.C. Sensor	3031-500	G
33	Rear Floorpan Above Axle	X	KETX4A	Accel., Triax	I.C. Sensor	3031-500	G
34	Rear Floorpan Above Axle	Y	KETX4B	Accel., Triax	I.C. Sensor	3031-500	G
35	Rear Floorpan Above Axle	Z	KETX4C	Accel., Triax	I.C. Sensor	3031-500	G
36	Left Sill at Rear Door	Y	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
37	Left Sill at Front Door	Y	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
38	Left Front Door Centerline	Y	ICST004X	Accel., Triax	I.C. Sensor	3031-500	G
39	Rear Ocupant Compartment	Y	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
40	Left Front Door Mid-Rear	Y	ICST004Y	Accel., Triax	I.C. Sensor	3031-500	G
41	Left Front Door Upper Centerline	Y	ICST004Z	Accel., Triax	I.C. Sensor	3031-500	G
42	Rear Door Mid-Rear	Y	ICST005X	Accel., Triax	I.C. Sensor	3031-500	G
43	Rear Door Upper Centerline	Y	ICST005Y	Accel., Triax	I.C. Sensor	3031-500	G
44	B-Post Lower	Y	KEBX2A	Accel., Biax	I.C. Sensor	3031-500	G
45	B-Post Middle	Y	KEBX2B	Accel., Biax	I.C. Sensor	3031-500	G
46	A-Post Lower	Y	KEBX1A	Accel., Biax	I.C. Sensor	3031-200	G
47	A-Post Middle	Y	KEBX1B	Accel., Biax	I.C. Sensor	3031-500	G
48	Front Seat Track	Y	KEIC008Y	Single	I.C. Sensor	3031-500	G
49	Rear Seat Strutcure	Y	N/A	N/A	N/A	N/A	N/A
50	Vehicle CG	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
51	Vehicle CG	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
52	Vehicle CG	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G

55/28 km/h Side Impact NCAP

Instrumentation Data Channel Assignments

Moving Deformable Barrier

11/30/00

2001 Ford Explorer XLT 4WD SUV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
53	MDB CG	X	ICST001X	Accel., Triax	I.C. Sensor	3031-100	G
54	MDB CG	Y	ICST001Y	Accel., Triax	I.C. Sensor	3031-100	G
55	MDB CG	Z	ICST001Z	Accel., Triax	I.C. Sensor	3031-100	G
56	MDB Rear Centerline	X	ICST002X	Accel., Triax	I.C. Sensor	3031-100	G
57	MDB Rear Centerline	Y	ICST002Y	Accel., Triax	I.C. Sensor	3031-100	G
58	Right Bumper Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%