

# Crash Test Results

## New Car Safety

### HYUNDAI ELANTRA

From mid 2011 Front+side+head airbags



**ANCAP**

Rated ★★★★★

**Occupant Protection**

**Occupant Protection Score 33.21 out of 37**

Variant: 1.8 GSL

Eng: 1.8 litre, auto

Kerb mass: 1200 kg

Category: CAR - SMALL

Vehicles built: 2011

#### Model History and Safety Features

The tested model of Hyundai Elantra was introduced in Australia in mid 2011.

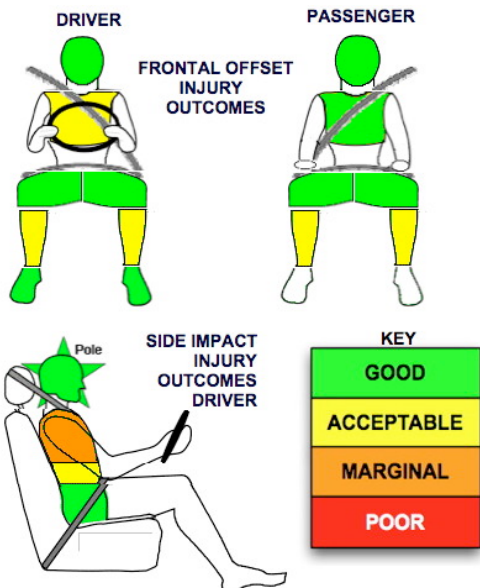
Dual front airbags, side airbags and head-protecting side curtains are standard equipment. Antilock brakes (ABS), electronic brake distribution (EBD) and electronic stability control (ESC) are also standard. Advanced seat belt reminders are fitted to both front seats.

Pretensioners are fitted to the front seat belts to reduce slack in the event of a crash. A three point seat belt is fitted to the centre rear seat. This provides better protection than a two point (lap) seat belt.

#### OCCUPANT PROTECTION: 5 Stars

The Elantra scored 14.24 out of 16 in the offset crash test. The passenger compartment was in excellent shape after the crash. There was a slight risk serious chest injury for the driver and a slight risk of lower leg injury for the driver and passenger.

The vehicle scored 13.97 out of 16 in the side impact crash test. There was a moderate risk of serious chest injury for the driver. A further two points were scored in the pole test.



Offset crash test at 64km/h

#### FRONTAL OFFSET CRASH TEST

Body region scores out of 4 points each: Head/neck 4 pts, chest 3.35 pts, upper legs 4 pts, lower legs 2.89 pts.

The passenger compartment held its shape well in the offset crash test. The accelerator pedal moved rearwards by 27 mm. The brake pedal moved upwards 21 mm. The steering wheel hub moved 27mm forward, 1 mm upward and 7 mm sideways. The front ("A") pillar moved 5 mm rearwards. All doors remained closed during the crash. After the crash all doors could be opened with normal effort.

The airbag cushioned the head of the driver and contact was stable. There were no knee hazards. The passenger's head was cushioned by the airbag. It appears that the passenger seat belt assembly did not operate in its designed manner but it still restrained the occupant.

The crash test lateral alignment was outside normal limits (42.8% offset instead of 40%). Comparison with manufacturer's test data confirmed that the ANCAP test was representative of this model and so it was used for scoring.

#### SIDE IMPACT CRASH TEST

Body region scores out of 4 points each: Head 4 pts, chest 2 pts, abdomen 3.97 pts, pelvis 4 pts.

During the side impact test the seat-mounted thorax airbag inflated but did not deploy correctly. However this airbag deployed correctly in the subsequent pole test, where the vehicle earned the maximum two points.

#### PEDESTRIAN PROTECTION: PENDING

**JUNE 2011**

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elantra11.doc

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**ANCAP**

Crash testing for safety

AUSTRALASIAN  
NEW CAR ASSESSMENT  
PROGRAM

# TECHNICAL DATA - HYUNDAI ELANTRA - From mid 2011

## INJURY MEASUREMENTS

Body region	Offset Crash Test at 64km/h (v4.2)		Side Impact Crash Test at 50km/h (v4.2)
	Driver	Passenger	Driver
<b>Head HIC</b>	508	437	74
Acceleration (g for 3ms)	57.5	47.0	32.2
<b>Neck - Shear (kN)</b>	0.65	0.51	-
Tension (kN)	1.50	1.30	-
Extension (Nm)	25.0	29.1	-
<b>Chest Accln (g for 3ms)</b>			-
Compression (mm)	26.56	21.60	8.00
Viscous criterion (m/s)	0.07	0.07	0.06
<b>Abdomen - Force (kN)</b>	-	-	1.010
<b>Pelvis - Force (kN)</b>	-	-	1.820
<b>Upper legs Force (kN)</b>			
Left	0.50	0.47	
Right	0.32	2.69	
Knee displ (mm)			
Left	0.09	0.58	
Right	0.19	5.15	
<b>Lower legs Force (kN)</b>			
Left	2.11	2.31	
Right	1.60	2.81	
Index (Upper/Low)			
Left	0.26 /0.65	0.30 /0.25	
Right	0.36 /0.50	0.4/0.21	

### Bonus points (maximum 5)

Pole Test: 2 pts

Seat belt reminders: 2 (see table below for details)

### Modifiers - deductions from offset test scores

Head	No deduction
Chest	No deduction
Upper leg	No deduction
Lower leg	No deduction
Foot score	Score 4 points

Note: Steering column and pedal movements are measured relative to the driver's seat.

### Modifiers - deductions from side impact test scores

Chest Incorrect airbag deployment & T12 loads 2 pt deduction

### Safety features

These specifications are subject to change. Please check with manufacturer for the latest specifications.

Driver airbag	S	Antilock (ABS) brakes / Electronic brake distribution / Brake Assist	S/S/S
Passenger front airbag	S	Electronic stability control (ESC, VSC, DSC, ESP, VSA)	S#
Side airbags, front seats - chest protection	S	3 point centre rear seat belt	S
Side airbags, front seats - head protection	S	Whiplash rating (RCAR protocol)	Pending
Side airbags, rear seats - head protection	S	Intelligent seat belt reminder - driver	S
Driver knee airbag	X	Intelligent seat belt reminder - front passenger	S
Seat belt pretensioners (Front/rear outboard)	S/X	Intelligent seat belt reminder - rear seats	S

Key:

S = standard on all variants

O = optional on base variant. May be standard on higher variants

V= not available on base variant but standard or optional on higher variants

X = not available on any variant

# ESC required by ANCAP for 5 star rating from 2008

