

C-NCAP (from July 2015)

Management Regulation 2015

Frontal Impact with 100% overlap at 50 km/h

| Dummy | Region | Points | Criteria |
|-----------------|------------|-----------|--|
| H III 50% front | Head | 5 | $HIC_{36} < 650$; $a_{3ms} < 72 \text{ g}$ |
| | | 0 | $HIC_{36} > 1000$; $a_{3ms} > 88 \text{ g}$ |
| | Neck | 2 | $M_{y,extension} < 42 \text{ Nm}$ $F_{z,tension} < 2.7 \text{ kN @ } 0 \text{ ms} / < 2.3 \text{ kN @ } 35 \text{ ms} / < 1.1 \text{ kN @ } 60 \text{ ms}$ $F_{x,shear} < 1.9 \text{ kN @ } 0 \text{ ms} / < 1.2 \text{ kN @ } 25 - 35 \text{ ms} / < 1.1 \text{ kN @ } 45 \text{ ms}$ |
| | | 0 | $M_{y,extension} > 57 \text{ Nm}$ $F_{z,tension} > 3.3 \text{ kN @ } 0 \text{ ms} / > 2.9 \text{ kN @ } 35 \text{ ms} / > 1.1 \text{ kN @ } 60 \text{ ms}$ $F_{x,shear} > 3.1 \text{ kN @ } 0 \text{ ms} / > 1.5 \text{ kN @ } 25 - 35 \text{ ms} / > 1.1 \text{ kN @ } 45 \text{ ms}$ |
| | Chest | 5 | Deflection $< 22 \text{ mm}$; VC $< 0.5 \text{ m/s}$ |
| | | 0 | Deflection $> 50 \text{ mm}$; VC $> 1.0 \text{ m/s}$ |
| | Femur/Knee | 2 | Axial Force _{compression} $< 3.8 \text{ kN}$; Displacement $< 6 \text{ mm}$ |
| | | 0 | Axial Force _{compression} $> 9.07 \text{ kN @ } 0 \text{ ms} / > 7.56 @ 10 \text{ ms}$; Displacement $> 15 \text{ mm}$ |
| | Tibia | 2 | TI < 0.4 ; Axial Force _{compression} $< 2 \text{ kN}$ |
| | | 0 | TI > 1.3 ; Axial Force _{compression} $> 8 \text{ kN}$ |
| H III 5% rear | Head | 0.8 | $HIC_{15} < 500$ |
| | | 0 | $HIC_{15} > 700$ |
| | Neck | 0.2 | $F_{x,shear} < 1200 \text{ N}$; $F_{z,tension} < 1700 \text{ N}$; $M_{y,extension} < 36 \text{ Nm}$ |
| | | 0 | $F_{x,shear} > 1950 \text{ N}$; $F_{z,tension} > 2620 \text{ N}$; $M_{y,extension} > 49 \text{ Nm}$ |
| | Chest | 1 | Deflection $< 23 \text{ mm}$ |
| | | 0 | Deflection $> 48 \text{ mm}$ |
| 1 | max. total | 18 | |