

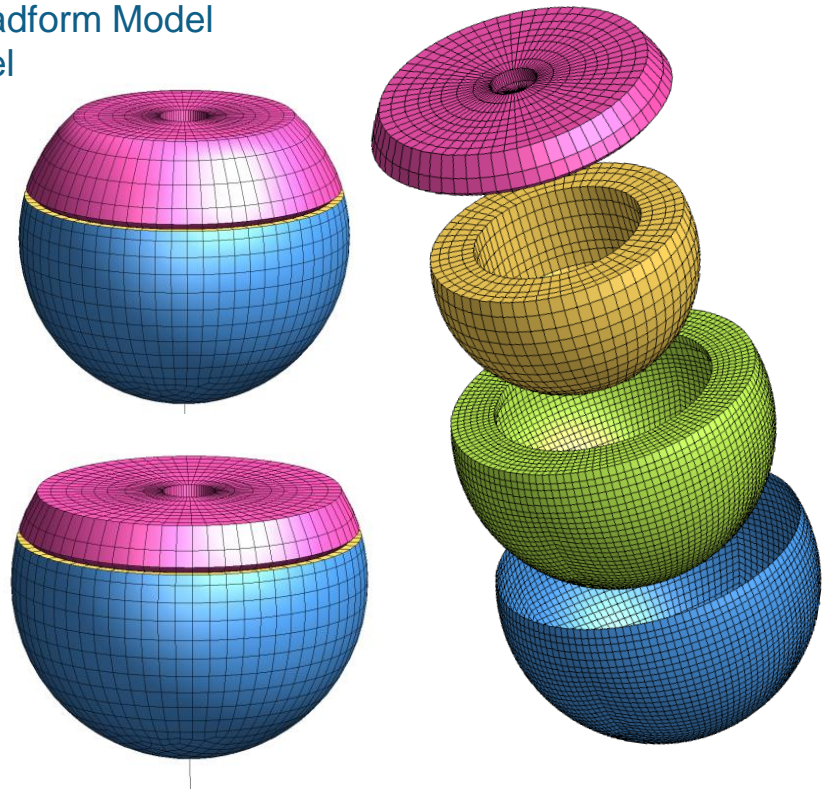
The specification used for the headform impactor has been taken from EC Regulation 78/2009 (14 January 2009) and annexed in EC Regulation 631/2009 (22 July 2009).

Arup-Cellbond have developed two standard 165mm diameter headforms used for both the European and Japanese regulations:

- 3.5kg Child/Small Adult Headform Model
- 4.5kg Adult Headform Model

## Specifications

- The head forms consists of a rigid sphere coated with a rubber hull.
- A triaxial accelerometer is fitted in the centre of gravity.



Element Type	Number of Elements	Timestep	Validation Code	Regulation Test	Regulation Speed
Solid	12532	-	R7.1.2/ R9.2	Euro NCAP	40 km/h

## **Validation**

The LS-DYNA model calibration has been done using the test results provided by Cellbond according to EU regulation calibration drop tests.

Peak resultant acceleration curves (obtained from model analysis and tests) are measured by the triaxial accelerometer in the headform and compared against the specified corridors from the regulations document.

The validation work has been carried out in both SMP and MPP versions of LS-DYNA R9.2.0 and R7.1.2 to ensure performance and accuracy.