Standard range of deformation tube devices. Providing a more cost effective solution with shorter lead times, to meet customer project requirements.

Deformation Tubes
These devices are very efficient at absorbing energy by controlled deformation. By their nature these are ‘single use’ and are most commonly used with a recoverable energy absorption device.

The combination of a deformation tube and recoverable energy absorption is a very effective way of enabling rolling stock to have good crash protection and low operating costs by avoiding repair costs arising from minor collisions and coupling activities.

Product Details
Standard range of Oleo Deformation Tube Devices:

- Standard fixed length and design per stroke.
- Extensive range of available strokes.
- All units are tested by Oleo with validated mathematical models in accordance with EN15227.
- Available with Radioss and LS-Dyna finite element models.
- The system used by Oleo for the mathematical modelling of crash scenarios is approved by a European Rail Authority as being accurate, appropriate and properly controlled.
- Reduced manufacturing lead time.

Product Advantages

- Performance can be fully optimised with Oleo 1D Train™ at no additional cost.
- Consistent and predictable deforming forces across the complete stroke.
- Controlled energy absorption throughout the total stroke.
- Near 100% energy absorption efficiency.

Applications

- Metro
- Light Rail
- Locomotive & Freight
- High Speed
- Mainline
Deformation Tubes Data

Deformation Tube Samples

![Deformation Tube Samples](image)

Dynamic Impact for Oleo Deformation Tube (MAX deforming force)

![Dynamic Impact Graph](image)

Range Overview

<table>
<thead>
<tr>
<th>Deforming stroke (mm)</th>
<th>Deforming force (kN)</th>
<th>Unit Code</th>
<th>Energy Absorption (kJ)</th>
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