



Steel for easy-open ends

Manufacturing of easy-open ends (EOEs) is a very demanding process, combining high production output, complex rivet-forming operations and very low spoilage rate.

Expected key properties are high pressure resistance during retorting, low opening forces for the final consumer and safe seaming ability.

All these requirements must be guaranteed with the objective of cost reduction and lightweighting via thickness reduction.

For a reliable rivet-forming process, packaging steels for EOE must have excellent cleanliness and high ductility in all directions.

Thickness reduction is ensured thanks to high temper steel grades, minimum elongation and tight tolerances on mechanical properties.

These high temper grades also improve opening ability (pop and tear forces) for the final consumer.

To meet the EOE manufacturing requirements, excellent cleanliness and minimum elongation in all directions is guaranteed in the ArcelorMittal product range for EOE.

The ArcelorMittal range is suitable for the EOE manufacturing process (three or four steps for rivet forming), end shape (round or rectangular) and can retorting process (with or without counter-pressure):

Maleis® (MLxxx) and Maleis+ (MPxxx) are the ideal candidates for round EOE retorted without counter-pressure.

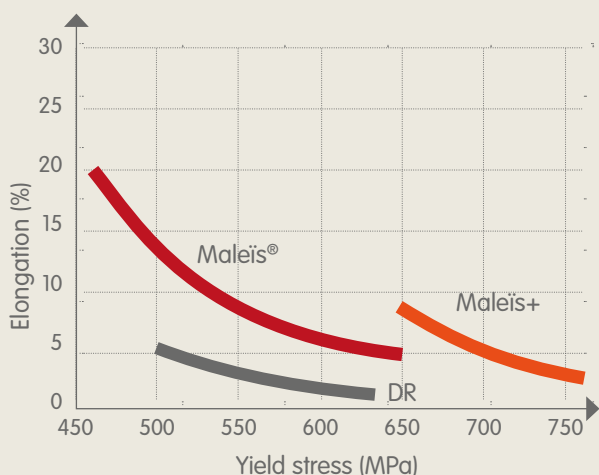
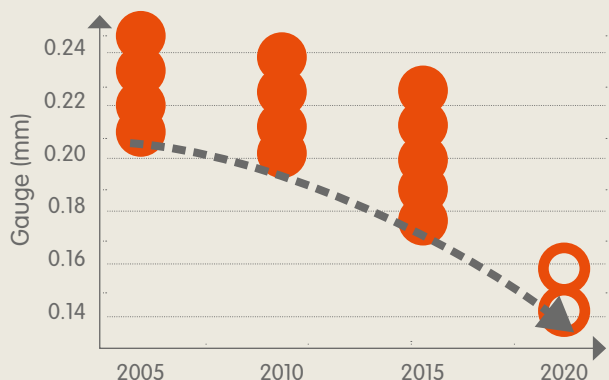
TH330 is recommended for retorting with counter-pressure.

Standard SR grades (TH415/435/460) are available for smaller diameters and demanding processes.

Tight tolerances on mechanical properties (+/- 30 MPa) are guaranteed for the highest temper grades (Maleis® and Maleis+).

| | Gauge | Elongation | Yield stress | Microstructure | Cleanliness |
|-----------------------------|-------|------------|--------------|----------------|-------------|
| Opening force (pop/tear) | ■ | | ■ | ■ | |
| Shelf life | | | | ■ | |
| Pressure resistance (burst) | ■ | | ■ | | |
| Double seam reliability | ■ | | ■ | | |
| Rivet forming - efficiency | ■ | ■ | | | ■ |
| Score forming - efficiency | ■ | | | ■ | ■ |

More than fifteen years of lightweighting



Product offer for easy-open ends

