



## Steel for aerosols

Steel is the ideal material for aerosol. Puncture resistance, strength to support high pressure (12-18 bars) and exciting shiny appearance are natural characteristics of steel. This packaging is made of four components: mounting cup, top, body and bottom, each of them satisfying different end-use properties or manufacturing constraints. The future evolution towards high pressure systems (pressurization 20+ bars) will impact most of these components.

To define the relevant steel offers for the four parts, the following key factors have to be considered:

- Welded bodies: nice surface after printing and body forming (no Lüders Bands for smaller diameters) and vacuum resistance at the filling line
- Bottom: pressure resistance and seaming ability
- Top: pressure resistance, high formability and controlled anisotropy and earing.
- Mounting cup: (MC) very low earing ( $\Delta C$ - value) and excellent coil coated surface

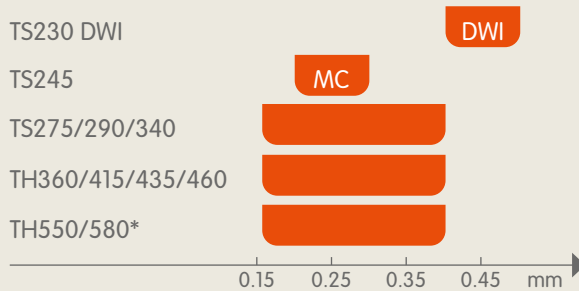
For each component, ArcelorMittal proposes tailor-made steel ranges. The outstanding characteristics are:

- Welded bodies: non ageing steel grades, tight flatness control for an excellent printing quality and tight thickness control (transverse direction) for the welding process in the typical H-Grain mode
- Mounting cups: grades with high formability, controlled anisotropy and deliveries in lacquered slit coils
- Bottoms and tops: yield stress from 280MPa to 580MPa with controlling anisotropy for tops.

Aerosol DWI: to compete with aluminium ArcelorMittal has developed a specific steel grade TS230 DWI for aerosol monobloc bodies. Low anisotropy and great homogeneity of mechanical properties are aimed to support ironing and necking steps.

For any light-weighting purpose or to satisfy new regulations, ArcelorMittal is ready to offer a technical support through Finite Element Modelling (FEM) to optimize the steel specifications of any component.

### Product offer for aerosols



\* High-Nitrogen steel available on request

	Gauge	Yield stress	Elongation	Metallic coating	Roughness	Earing $\Delta C$	r-Lankford / n-Hollomon	Ageing properties (YPE%)
Puncture resistance	■	■						
Appearance - printing quality					■			■
Vacuum resistance	■							
Pressure resistance (burst)	■	■						
Drawing (bottom - top - m.cup)			■			■		
Body forming (small diameter)								■

