

Steel for tabs

A tab for an easy-open end is manufactured and riveted onto the end panel by high-speed conversion presses that require consistent metal properties to run efficiently. Subsequently, the tab is seen by consumers as a smart tool to open the can, a tool that is strong enough to maintain its integrity during the opening action: no bending, no tearing and no rivet loosening.

Based on Finite Element Modelling (FEM), a tab can be produced from a metal gauge as thin as 0.20 mm as soon as:

- Bending rigidity is achieved. This comes from the shape and the metal yield stress. The most resistant shapes are usually made with sharp radii, which are quite demanding for tab forming if metal elongation is too low. Elongation of about 5% or more allows complex forming without detrimental thinning.
- The tab horseshoe area withstands severe strain in the shear mode during opening.

The tabstock yield stress is sufficiently high to ensure rivet stability.

Products with medium yield stress (TH435/460) or high yield stress (TH520/550/620) are the best options for standard tab geometries.

ArcelorMittal recently introduced a new range of products for lightweighted tabs, with the key features of very high strength and high formability: TH550N/620N/650N and TH700A/750A.

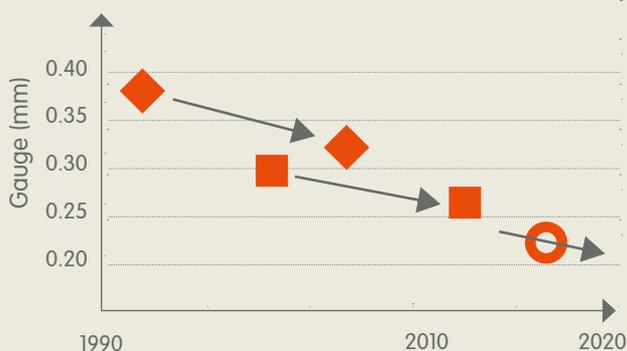
A high-performance tab also requires adequate surface coating. ArcelorMittal can supply all surface coatings:

- Metallic coating: zinc, tin or chromium. Zinc is the preferred option to eliminate the rust risk, especially for demanding filling or retorting.
- Organic coating: clear, gold, mostly alu-pigmented.

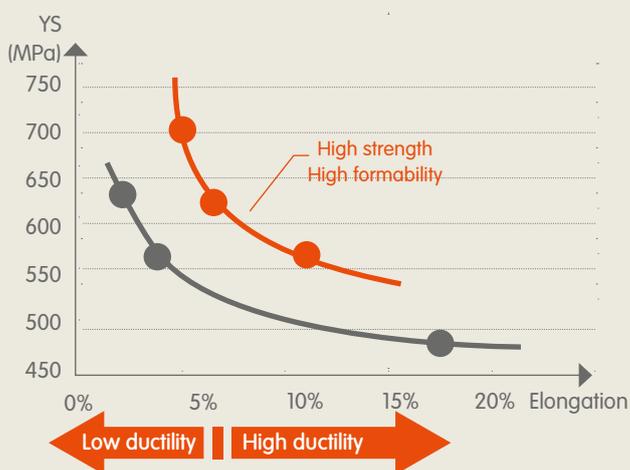
The size of the tabstock coils also affects the productivity of the conversion press; ArcelorMittal offers coil diameters up to 1,600 mm to minimise production losses caused by coil changeovers.

	Gauge	Yield stress	Elongation	Microstructure	Cleanliness	Earing ΔC	r-Lankford / n-Hollomon	Ageing properties (YPE%)
Tab strength (bending resistance)	■	■						
Tab strength (tear at horseshoe)	■							
Rivet loosening (tab detachment)	■	■						
Metal forming (crack risk)			■					

The way down to 0,23 mm and below



New grades for new lightweighted tab designs



Product offer for tab stock

