

Ymagine® S1

Reliable structural steel with consistent quality

Ymagine is Tata Steel's range of high-quality, direct-rolled steel products engineered for reliable performance and efficient processing. Supplied pickled and oiled, Ymagine offers excellent dimensional control, consistent mechanical properties and tight tolerances – making it a smart alternative to cold-rolled or hot-rolled steel. All grades are delivered in weld-free coils and available in various

thicknesses, widths and coil weights to optimise productivity and reduce waste.

Ymagine S1 offers robust strength and stability for general structural applications. It combines consistent mechanical properties with good formability, making it suitable for construction elements, frames, supports and fabricated structures.

Mechanical properties (measured transverse to the rolling direction)

	Min.-Max. yield strength	Min.-Max. tensile strength	% elongation at fracture	
			t < 3 mm	t ≥ 3 mm
	R _y in MPa	R _m in MPa	L ₀ = 80 mm (%)	L ₀ = 5.65√S ₀ mm (%)
Typical	300	395	28	34
Guaranteed	235-360	360-510	≥ 19	≥ 24

Chemical composition (% by weight)

	C	Mn	P	S	Si ¹
Typical	0.045	0.220	0.008	0.007	0.018
Guaranteed	≤ 0.065	≤ 0.300	≤ 0.025	≤ 0.015	≤ 0.035

¹ For the purpose of batch galvanising, Ymagine S1 can be ordered after consultation with a maximum Si content of 0.030%.

Tolerances

Thickness	Tolerances
1.15 ≤ t ≤ 2.0	± 0.05
2.0 < t ≤ 2.5	± 0.06
2.5 < t ≤ 3.0	± 0.07
3.0 < t ≤ 4.0	± 0.09
	± 0.07 on request

Weldability

Ymagine can be welded using all conventional welding processes. Thanks to the low content of residual elements, the material offers good weldability, comparable to that of hot-rolled or cold-rolled steel with a similar chemical composition.

Surface quality

The surface quality of Ymagine is more than sufficient for hot-rolled and cold-rolled applications that are not surface critical. The surface roughness is comparable to that of hot-rolled pickled and oiled material, i.e. 1-3 μm Ra (cut-off length = 2.5 mm).

Coatability

Ymagine has been tested for both wet paint and powder coatings. Adhesion test results were positive on flat sample material, indicating good coatability.

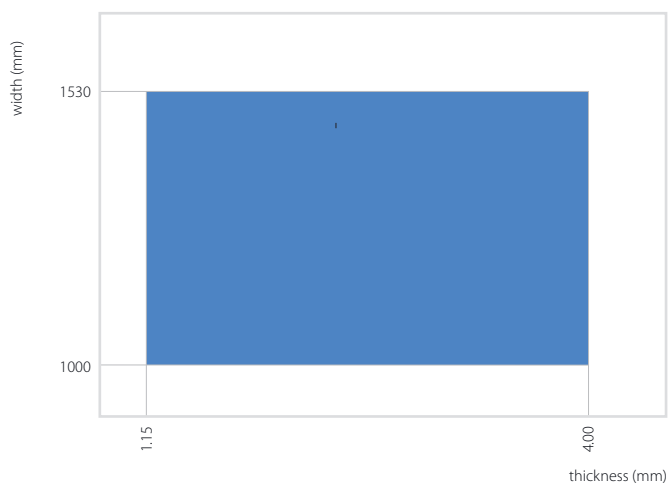
Galvanising

Ymagine can be hot-dip galvanised without any restrictions.

Product support

Our proactive Customer Technical Services team is available to help you optimise your processes and maximise performance with tailored advice and hands-on support. Backed by deep steel expertise and in-depth application knowledge, we'll work with you to boost efficiency, reduce waste, and get the best out of Ymagine S1.

Available dimensions of Ymagine® S1



Ymagine® range

Steel grades: Ymagine D1 – drawing steel
Ymagine S1 – structural steel
High-strength low-alloy steels:
H240, H320, H360, H420, H500

Thickness range: 1.15 – 4 mm

Width range: 1000 – 1530 mm

Surface treatment: pickled and oiled

Further information

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