

Ympress® S500MC

Strong, consistent and highly formable

Ympress® S500MC is a hot-rolled, high-strength low-alloy steel. It combines high strength with outstanding formability and consistent quality. It is ideal for safety-critical applications where high strength is essential. These include cranes, earthmoving equipment, telescopic booms and automotive chassis components.

The high yield strength of Ympress® S500MC delivers improved load-bearing capacity without weight penalties. Its strength also enables production of lighter components for applications where

weight savings are a prime consideration. Down-gauging offers an additional benefit of increased yield per tonne of steel. Consistent product properties and reliable material thickness allow trouble-free, repeatable processing. Ympress® S500MC can be easily welded and galvanised. Its high surface quality can lead to fewer processing steps.

Mechanical properties (parallel to the rolling direction)

	Min. yield strength	Min. - Max. tensile strength	Elongation after fracture A			Min bending radius*	
			t < 3mm	3mm ≤ t < 5mm	t ≥ 5mm	t < 5mm	t ≥ 5mm
	R _{en} in MPa	R _m in MPa	L ₀ =80mm (%)	L ₀ =5.65√S ₀ mm (%)	L ₀ =5.65√S ₀ mm (%)	(t)	(t)
Typical value	560	650	20	22	22	-	-
Guaranteed	500	580-700	≥ 13	≥ 18	≥ 17	0.5	0.5
EN 10149-2	500	550-700	≥ 12	≥ 14	≥ 14	1	1

* minimum 180° bend radius, measured transverse to the rolling direction

Chemical composition (% by weight)

	C	Mn	Si	P	S	Al _{tot}	Nb	V	Ti	Mo	Ceq*	Ceq*
											< 6 mm	≥ 6 mm
Guaranteed	≤ 0.10	≤ 1.65	≤ 0.03	≤ 0.020	≤ 0.003	≥ 0.015	≤ 0.08	-	≤ 0.06	-	-	-
EN 10149-2	≤ 0.12	≤ 1.70	≤ 0.50	≤ 0.025	≤ 0.015	≥ 0.015	≤ 0.09	≤ 0.20	≤ 0.15	-	0.31-	0.33

* Ceq is a typical value

Impact strength (optional and parallel to the rolling direction)

	Impact test in J at -20°C
Guaranteed* (6-12mm)	≥ 40
Typical value	130

* in accordance with EN 10149 the impact values above are only guaranteed if accepted on order

Tolerances on thickness

All Ympress® products comply to ½ EN 10051:2010. Tighter tolerances are available on request.

Certification

A 2.2 certificate is issued as standard with Ympress® products. Other certificate types are available on request.

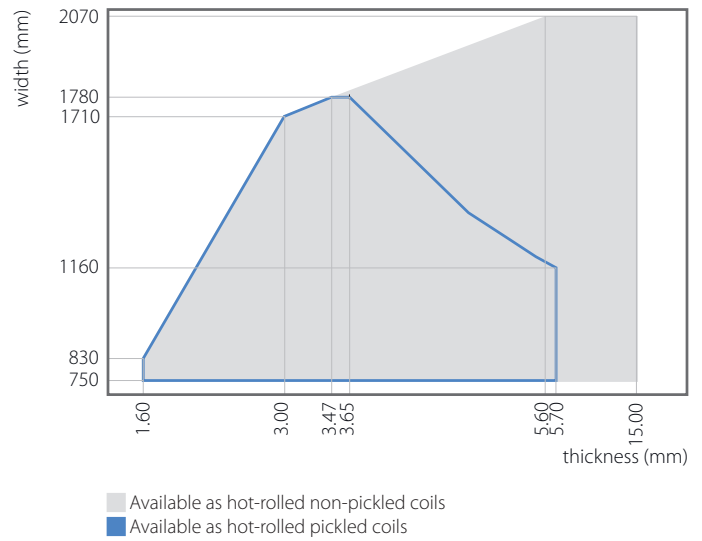
Product support

We want you to get the best from Ympress® products. Our technical engineers and trained sales staff are always happy to answer your questions on steel selection and application. Our engineers are available to assist you with process and product design optimisation for improved throughput, yield and end-product performance.

Product Range

Ympress®:	S315MC, S355MC, S420MC, S460MC, S500 MC, S550MC S650MC, E690TM, S700MC
Ympress® Laser:	E250C / S355MC / S420MC
Thickness range:	1.5 - 20mm (grade specific)
Width range:	750 - 2070mm (grade specific)
Surface treatment:	Hot rolled dry, pickled & oiled

Available dimensions of Ympress® S500MC



www.tatasteeleurope.com

Tata Steel

PO Box 10.000
1970 CA IJmuiden
The Netherlands
T: +31 (0)251 496126
E: strip.enquiries@tatasteel.com

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