

## Ympress® S650MC

### Strong, consistent and highly formable

Ympress® S650MC is a hot-rolled, high-strength low-alloy steel. It combines high strength with outstanding formability and consistent quality. It also delivers exceptional weldability for fast and efficient processing. Ympress® S650MC is ideal for applications where high strength is essential. These include large cranes, earthmoving equipment, telescopic booms and truck trailers.

The high yield strength of Ympress® S650MC 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® S650MC can be easily 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*	
			3mm ≤ t < 5mm	t ≥ 5mm	t < 5mm	t ≥ 5mm
	R <sub>eh</sub> in MPa	R <sub>m</sub> in MPa	L <sub>0</sub> =5.65√S <sub>0</sub> mm (%)	L <sub>0</sub> =5.65√S <sub>0</sub> mm (%)	(t)	(t)
Typical value	770	825	20	20	-	-
Guaranteed	650	700-880	≥ 12	≥ 12	1.0	1.5
EN 10149-2	650	700-880	≥ 12	≥ 12	2.0	2.0

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

#### Chemical composition (% by weight)

	C	Mn	Si	P	S	Al <sub>tot</sub>	Nb*	V*	Ti*	Mo	Ceq**
Guaranteed	≤ 0.08	≤ 2.00	≤ 0.15	≤ 0.020	≤ 0.003	≥ 0.015	≤ 0.09	≤ 0.01	≤ 0.15	≤ 0.06	0.38
EN 10149-2	≤ 0.12	≤ 2.00	≤ 0.60	≤ 0.025	≤ 0.015	≥ 0.015	≤ 0.09	≤ 0.20	≤ 0.22	-	-

\* the sum of Nb, V and Ti < 0.220 is guaranteed according to EN 10149-2

\*\* Ceq is a typical value

#### Impact strength (optional and parallel to the rolling direction)

	Impact test in J at -20°C	Impact test in J at -40°C
Guaranteed* (6-8mm)	≥ 40	≥ 27
Guaranteed* (6-10mm)	≥ 27	-
Typical value	60	45

\* 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.

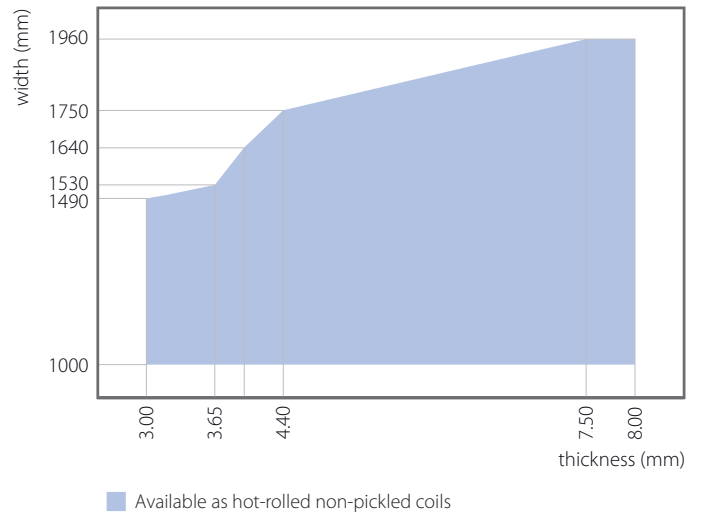
#### Product support

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® S650MC



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