

## Ympress® Laser S420MC

### Strong, consistent and highly formable

Ympress Laser S420MC is a hot-rolled, high-strength, low-alloy steel. It is optimised for efficient laser cutting and post-cut processing. The product combines high strength with outstanding formability and consistent quality. It is ideal for applications where low weight, high strength and exceptional formability are critical factors. These include automotive seating components, truck and trailer components, tow hooks, industrial silos, lifting and excavating and agricultural machinery.

Ympress Laser S420MC offers exceptional flatness, minimised internal stress and high-quality surfaces. Consistent product characteristics ensure fast, reliable automated processing for increased productivity and improved part yield. A clean-cut edge – even at high cutting speeds – allows simple release of cut parts and reduces post-cut work. Suitable also for conventional cutting methods, Ympress Laser S420MC can be easily welded and galvanised.

#### Mechanical properties (parallel to the rolling direction)

	Min. yield strength	Min. - Max. tensile strength	Elongation after fracture A			Min. bend test diameter at 180°*
			t < 3mm	3mm ≤ t < 5mm	t ≥ 5mm	
	R <sub>en</sub> in MPa	R <sub>m</sub> in MPa	L <sub>0</sub> = 80mm	L <sub>0</sub> = 5.65√S <sub>0</sub> mm (%)	L <sub>0</sub> = 5.65√S <sub>0</sub> mm (%)	
<b>Typical value</b>	460	545	26	27	26	-
<b>Guaranteed</b>	≥ 420	500-600	18	22	21	0 t
<b>EN-10149-2</b>	≥ 420	480-620	16	19	19	0.5 t

\* ≤ 180° bend radius, measured transverse to the rolling direction  
t = material thickness in mm

#### Chemical composition (% by weight)

	C	Mn	Si	P	S	Al <sub>tot</sub>	Nb	V	Ti	Mo	Ceq*	Ceq*
											< 6mm	> 6mm
<b>Guaranteed</b>	≤ 0.10	≤ 1.50	≤ 0.030	≤ 0.020	≤ 0.005	≥ 0.015	≤ 0.08	-	≤ 0.05	-	0.29	0.31
<b>EN 10149-2</b>	≤ 0.12	≤ 1.60	≤ 0.50	≤ 0.025	≤ 0.015	≥ 0.015	≤ 0.09	≤ 0.20	≤ 0.15	-	-	-

\* Ceq is a typical value

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

		Impact test J at -20°C
<b>Guaranteed*</b>	6-15mm	≥ 40
<b>Typical value</b>		130

\* In accordance with EN 10149-2 the impact values above are only guaranteed if accepted on order

#### Tolerances on thickness

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

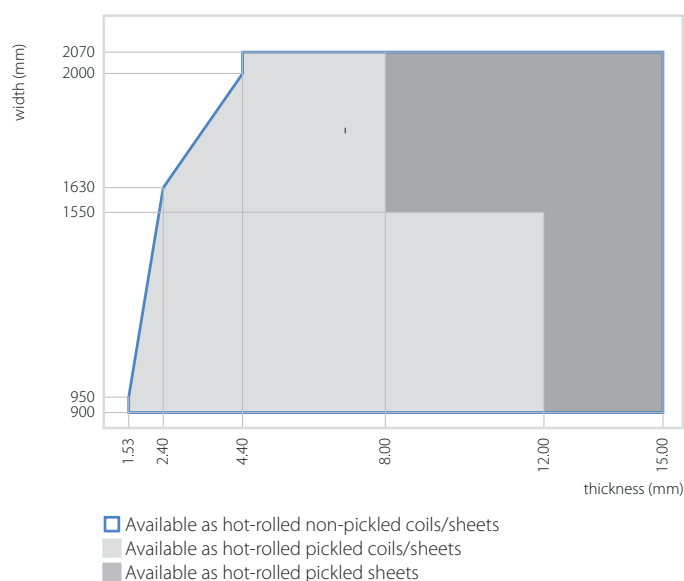
#### Certification

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

#### Product support

We want you to get the best from Ympress Laser 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.

## Available dimensions of Ympress® Laser S420MC



## Ympress® Laser range

Steel grades:	E250C, S355MC, S420MC
Thickness range: (sheets)	1.5 - 20mm (grade specific)
Width range:	900 - 2070mm
Surface treatment:	Hot rolled dry, pickled and oiled

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