

Ympress® S420MC

Strong, consistent and highly formable

Ympress® S420MC is a hot-rolled, high-strength low-alloy steel. It combines high strength with outstanding formability and consistent quality. It is ideal for applications requiring low weight, high strength and good formability. Typical applications include towing hooks, industrial silos and car seat components.

The high yield strength of Ympress® S420MC delivers weight savings and increased component strength. This enables production of lighter, stronger components. It also offers opportunities for increased yield per tonne of steel through down-gauging. Consistent product properties and reliable material thickness allow trouble-free, repeatable processing. Ympress® S420MC 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 _{eh} 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 | 460 | 545 | 26 | 27 | 27 | - | - |
| Guaranteed | 420 | 500-600 | ≥ 18 | ≥ 22 | ≥ 21 | 0 | 0 |
| EN 10149-2 | 420 | 480-620 | ≥ 16 | ≥ 19 | ≥ 19 | 0.5 | 0.5 |

* 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** |
|------------|--------|--------|--------|---------|---------|-------------------|--------|--------|--------|----|-------|-------|
| | | | | | | | | | | | <6mm | ≥6mm |
| Guaranteed | ≤ 0.10 | ≤ 1.50 | ≤ 0.03 | ≤ 0.020 | ≤ 0.008 | ≥ 0.015 | ≤ 0.08 | - | ≤ 0.05 | - | 0.29 | 0.31 |
| EN 10149-2 | ≤ 0.12 | ≤ 1.60 | ≤ 0.50 | ≤ 0.025 | ≤ 0.015 | ≥ 0.015 | ≤ 0.09 | ≤ 0.20 | ≤ 0.15 | - | - | - |

* extra low sulphur content - max 0.005% available to special order

** 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.

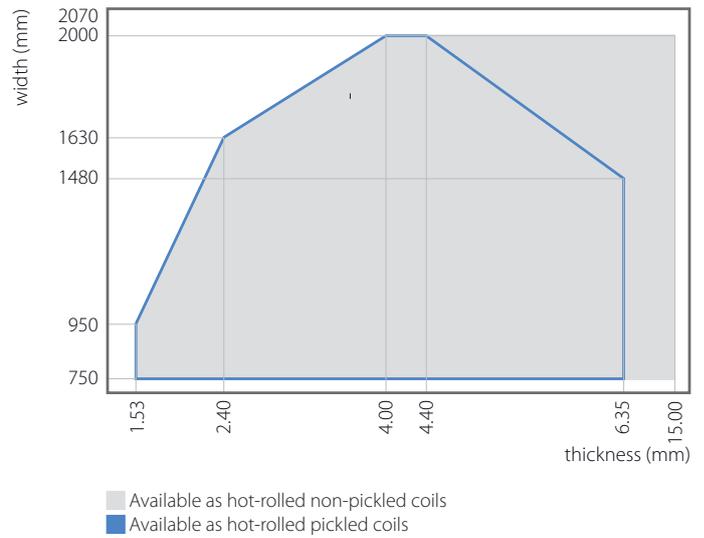
Product support

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® S420MC



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