

# SIMAXX<sup>...</sup> 700

## SPECIFICATION SHEET

SIMAXX is a high-strength steel that makes structures lighter. It is tough and has a homogeneous structure – properties that deliver optimal results. Its extensive shaping possibilities make SIMAXX steel ideal for use in a wide range of industries.

In comparison to non-alloyed structural steel grades, SIMAXX gives better results at lower thickness. Lifting equipment and transport vehicles are therefore lighter and can carry more. Thinner plates require less demanding welding, resulting in lower costs of production.

### ➤ Chemical composition (ladle analysis)

C max	Si max	Mn max	S max	P max	Cr max	Ni max	Mo max	B max
0.18	0.5	1.5	0.002	0.012	1	0.80	0.45	0.005

### ➤ Mechanical properties

Yield strength (minimal) Re [MPa]	Tensile strength Rm [MPa]	Elongation (minimal) A <sub>5</sub> [%]
690	770–940	14

Values apply to plates up to 50 mm in thickness. According to EN 10025-6 + A1.

### ➤ Impact properties

	Test temperature [°C]	Charpy V-notch impact energy, transverse (min) [J]
Q	–20	27
QL	–40	27
QL1	–60	27

### ➤ Delivery conditions

- Quenched and tempered (Q + T)
- Quenched and tempered + shotblasted + primed

### ➤ Dimensional range

Thickness [mm]	Width [mm]	Length [mm]
8–100	1000–2500	2000–12,000

### ➤ Tolerances

According to EN 10029, narrower tolerances upon agreement.

➤ **Welding SIMAXX**

Welding materials / Welding process	EN ISO Designation (EN ISO 2560, EN ISO 18275, EN ISO 14341, EN ISO 17632, EN ISO 18276, EN ISO 16834, EN ISO 14171, EN ISO 26304)	SIJ Elektrode Designation
Electrodes / MMAW	E 69 6 Mn2NiCrMo B 42 H5	EVB 75
		EVB 80
Flux-cored wires / FCAW	T 69 6 Mn2NiCrMo B M (C)3 H5	Filtub 32B
		Filtub 32M
Wires / GMAW, GTAW	G 69 4 M Mn3Ni1CrMo	MIG 75
SAW fluxes / wires	S 69 6 FBT3Ni2.5NiCrMo	FBTT/Filtub 132

We recommend the following welding procedure for SIMAXX high-strength heavy plates with elevated yield strength: root-welding passes should be welded with softer filler materials (under matching), filling and cover passes with similar fine-grained welding materials – see table above. For welding SIMAXX plates, we recommend low energy input with optimal welding current and welding with more passes. Using higher energy input than recommended can result in HAZ (heat-affected zone) grain growth, which can deteriorate mechanical properties. To avoid the contamination, our welding experts recommend welding immediately after the welding edges are finished.

➤ **Recommended preheat temperature [°C]\***

Thickness [mm]	8–25	30–45	50–90
Temperature [°C]	75	100	Not available in this thickness range

\* For thicknesses up to 13 mm. | Data from the table is applicable to single plate thickness when welding with a heat input of 1.7 kJ/mm. The consumables determine the preheating temperature if their carbon equivalent is higher than that of the plate. | Room temperature is approx. 20 °C.

➤ **Recommended interpass temperature**

The maximum recommended interpass temperature is 225 °C.

➤ **Disclaimer**

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