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Material data sheet
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X20CrMoV11-1

High-temperature steel · Material no. 1.4922

X20CrMoV11-1 is a high-temperature 12 % chromium steel – for decades the classic material for main-steam lines and superheaters in power plants.

1.4922	≥ 490 MPa	690–840 MPa	~ 580 °C
MATERIAL NO.	YIELD STRENGTH RP0.2	TENSILE STRENGTH RM	SERVICE TEMP.

Application

- Main-steam and live-steam lines
- Superheaters and headers
- Power-plant modernisation

Chemical composition (typical, wt.-%, per EN)

Element	Content (%)
C	0.17–0.23
Si	≤ 0.50
Mn	≤ 1.00
Cr	10.0–12.5
Mo	0.80–1.20
V	0.25–0.35
Ni	0.30–0.80

Mechanical properties (typical at RT, per EN)

Property	Value
Yield strength Rp0.2	≥ 490 MPa
Tensile strength Rm	690–840 MPa
Elongation A	≥ 17 %
Impact energy KV	≥ 27 J

Standards & supply

Topic	Detail
Standards	EN 10216-2
ASME/ASTM equivalent	~ DIN 17175 (X20)
Short name / aka	12%-Cr-Stahl · Kraftwerksstahl
Product forms	Pipes, flanges, fittings – seamless/welded, EN 10204 3.1/3.2 mill certificate

ROHRLINE · Gewerbering 19/1/6, 3484 Grafenwörth, Austria · +43 (0) 664 1203063 · office@rohrline.at · rohrline.at/en/werkstoff-x20crmov11-1.html