

**Material data sheet**

<b>Material Number</b>	1.7362
<b>Country</b>	Germany
<b>Designations</b>	X12CrMo5; X11CrMo5; 12 CrMo 19 5

<b>Standards</b>	DIN EN 10028-2 (08/2003)	Flat products made of steels for pressure purposes. Non-alloy steels with specific elevated temperature properties.
	DIN EN 10216-2 (08/2002)	Seamless steel tubes for pressure purposes. Non-alloy and alloy steel tubes with specified elevated temperature properties.
	DIN SEW 028 (05/1993)	Unalloyed and alloyed steels for pressure vessel for moderate elevated temperatures. Steel flat products.

**Steelgroup** Alloy special structural steels: Structural steels, Cr-Mo-steels with > 0,35% Mo

**Range of application** Steels for high-pressure hydrogenation vessels:  
Tubes and shaped parts for petroleum distilling and hydrogenation plants

**Chemical composition**

Element	min/max	Others	Footnote
C	0.08 - 0.15		
Si	<=0.50		
Mn	0.30 - 0.60		
P	<=0.020		
S	<=0.005		
Cr	4.00 - 6.00		
Cu	<=0.30		
Mo	0.45 - 0.65		
N	<=0.012		
Ni	<=0.30		

**normalized and tempered****Yield stress**

<=60 mm	>=320 N/mm <sup>2</sup>	transvers	~ 20 °C
60 - 150 mm	>=300 N/mm <sup>2</sup>	transvers	~ 20 °C

**Tensile strength**

<=60 mm	510 - 690 N/mm <sup>2</sup>	transvers	~ 20 °C
60 - 150 mm	480 - 690 N/mm <sup>2</sup>	transvers	~ 20 °C

**Elongation after fracture (A5)**

<=60 mm	>=20 %	transvers	~ 20 °C
60 - 150 mm	>=20 %	transvers	~ 20 °C

**Impact value KV (ISO-V/Charpy-V)**

<=60 mm	>=40 J	transvers	~ 20 °C
<=60 mm	>=34 J	transvers	~ 0 °C
<=60 mm	>=27 J	transvers	~ -20 °C
60 - 150 mm	>=40 J	transvers	~ 20 °C
60 - 150 mm	>=34 J	transvers	~ 0 °C
60 - 150 mm	>=27 J	transvers	~ -20 °C

