

<b>Quality</b>	<b>X33CrS16</b>	Supply conditions:	<i>Technical card</i>
According to standards	<b>Werkstoff</b>	Annealed HB max 230	<b>Lucefin Group</b>
Number	<b>1.2085</b>	Quenched and tempered HB 300-340	<i>rev. 2018</i>

### Chemical composition

C%	Si% max	Mn% max	P% max	S%	Cr%	Ni% max
0,28-0,38	1,00	1,40	0,030	0,050-0,100	15,00-17,00	1,00

### Temperature °C

Hot-forming	Preheating	Quenching +Q	Tempering +T	Tempering +T
1050-850	800, pause, then ▲	▲ 1000-1050 oil or polymer (HRC 48)	150-200	see table

### Soft annealing +A

760-780 slow cooling  
in furnace  
(HB max 230)

### Pre-heating welding

### Stress-relieving after welding

not recommended

Ac1	Ac3	Ms	Mf
790	885	130	-80

the symbol ▲ indicates the temperature rise to .....°C ▲

### Tempering table

HRC	48	48	47	46	47	47	36	30
R N/mm <sup>2</sup>	1640	1640	1580	1520	1580	1580	1110	950
Tempering to °C	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>450</b>	<b>500</b>	<b>550</b>	<b>600</b>

<b>Thermal expansion</b>	10 <sup>-6</sup> • K <sup>-1</sup>	►	11	11.1	11.2	11.6	12
<b>Modulus of elasticity</b>	GPa	212					
<b>Specific heat capacity</b>	J/(Kg•K)	460					
<b>Thermal conductivity</b>	W/(m•K)	18					
<b>Density</b>	Kg/dm <sup>3</sup>	7.65					
<b>Specific electric resistivity</b>	Ohm•mm <sup>2</sup> /m	0.65					
<b>Electrical conductivity</b>	Siemens•m/mm <sup>2</sup>	1.54					
<b>°C</b>		<b>20</b>	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>

The symbol ► indicates temperature between 20 °C and 100 °C, 20 °C and 200 °C ...

Europe	Germany	China	Japan	India	R. of Korea	Russia	USA
EN	DIN	GB	JIS	IS	KS	GOST	AISI/SAE
X33CrS16	X33CrS16						

### Martensitic stainless steel resistant to corrosion

- magnetizable steel
- good mechanical resistance and toughness
- excellent for manufacturing of components that have to resist to aggressive plastics
- good tool machinability thanks to its sulphur content
- suitable for working in wet atmosphere and moisture
- suitable for polishing, wear and corrosion proof
- very stable dimensionally during heat treatment
- applications: *dies and die-blocks in the plastics industry such as PVC*