



| | | | |
|----------------|--------------------|------------------------|----------------------------|
| Quality | X6CrMoS19-2 | Ferritic | <i>Technical card 2018</i> |
| Number | 1.4114 | Stainless Steel | <i>Lucefin Group</i> |

Chemical composition

| C% | Si% | Mn% | P% | S% | Cr% | Mo% | Ni% | |
|------|------|------|-------|-----------|-----------|-----------|------|-------------------|
| max | max | max | max | | | | max | |
| 0,08 | 1,00 | 2,50 | 0,040 | 0,15-0,35 | 17,5-19,5 | 1,50-2,50 | 0,75 | FD A 35-570: 1996 |

Temperature °C

| Melting range | Hot-forming | Soft annealing +A | MMA welding – AWS electrodes |
|-------------------------|--|-------------------|--|
| 1500 | preheat 870-820 hot-forming 1100-1040 | 850-775 air | <i>pre-heating annealing after w.</i> not recommended |
| Isothermal annealing +I | Quenching +Q | Tempering +T | joint with steel |
| not suitable | not suitable | not suitable | carbon CrMo alloyed stainless |
| | | | cosmetic welding |

Chemical treatment - Passivation (20 - 50% HNO₃) + (2 - 6% Na₂Cr₂O₇ • 2H₂O) hot or cold

Mechanical properties

Heat-treated material +A FD A 35-570: 1996

| size | Testing at room temperature | | | | |
|---------|-----------------------------|-----------------------|-----|------------------------|--|
| mm | R | Rp 0.2 | A% | Kv ₂ +20 °C | |
| from to | N/mm ² | N/mm ² min | min | J min | |
| 100 | 430-630 | 240 | 14 | - | |

| | | | | | | |
|--------------------------------|------------------------------------|-----|-----------|------------|------------|---|
| Thermal expansion | 10 ⁻⁶ • K ⁻¹ | ▶ | 10.2 | 10.4 | 11 | 11.5 |
| Modulus of elasticity | longitudinal | GPa | 216 | | 200 | |
| Electrical resistivity | Ω • mm ² /m | | 0.60 | | | |
| Electrical conductivity | Siemens•m/mm ² | | 1.66 | | | |
| Specific heat | J/(Kg•K) | | 460 | | | |
| Density | Kg/dm ³ | | 7.70 | | | |
| Thermal conductivity | W/(m•K) | | 25 | | | |
| °C | | | 20 | 100 | 200 | 300 400 600 800 |

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

| Corrosion resistance | Atmospheric | | Chemical | | | x food and organic substances, chlorides |
|----------------------|-------------|--------|----------|-----------|----------|--|
| | industrial | marine | medium | oxidizing | reducing | |
| Fresh water | | | | | | |
| x | x | | x | | | |

| | |
|-----------------------------------|--|
| Magnetic | yes |
| Machinability | high |
| Hardening | cold-drawn and other cold plastic deformations |
| Service temperature in air | up to 870 °C |

| Europe | USA | USA | France | Russia | Japan | India | Republic of Korea |
|-----------|--------|--------------|------------|--------|-------|-------|-------------------|
| EN | UNS | ASTM | FD A | GOST | JIS | IS | KS |
| X6CrMoS17 | S18200 | XM-34 | Z8CDF 19-2 | | | | |