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|---|---|--------------------------------|---|-------------------------------|---------------------|-----------|
| Quality According to standards Number | 39NiCrMo3 EN 10083-3: 2006 1.6510 | |  | | | |
| Equivalent | Italy UNI | China GB | Germany DIN | UK | USA AISI/SAE | |
| | 39NiCrMo3 | | 36CrNiMo4 | | 9840 | |
| Chemical composition | | | | | | |
| C% max | Si% | Mn% | P% max | S% max | Cr% max | |
| 0.35-0.43 | 0.4 | 0.50-0.80 | 0.025 | 0.035 | 0.60-1.0 | |
| | Mo% max | Ni% max | V% max | Al% | | |
| | 0.15-0.25 | 0.70-1.0 | - | - | | |
| Temperature °C | | | | | | |
| Hot-forming | Quenching | Tempering | Stress Relieving | Carbonitriding | | |
| 1100-900 | 840-850 oil or polymer or water | 550-650 air | 50°C under the temperature of tempering | 870-880 gas tempering 150-200 | | |
| Mechanical properties | | | | | | |
| Hot Rolled (+QT) EN 10083-3: 2006 | | | | | | |
| size d/t | Testing at room temperature (longitudinal) | | | | | |
| mm | R (N/mm² min) | Rp 0.2 N/mm² | A% min | C% | Kv | HB |
| 16/8 | 980-1180 | 785 | 11 | 40 | | 295-354 |
| 16/8 to 40/20 | 930-1130 | 735 | 11 | 40 | 35 | 278-339 |
| 40/20 to 100/60 | 880-1080 | 685 | 12 | 45 | 40 | 263-327 |
| 100/6 to 160/100 | 830-980 | 635 | 12 | 50 | 40 | 249-295 |
| 160/100 to 250/160 | 740-880 | 540 | 13 | 50 | 40 | 224-263 |
| Table of tempering values obtained at room temperature on rounds after quenching at 850°C in oil | | | | | | |
| HB | 577 | 560 | 525 | 496 | 468 | 442 |
| HRC | 56 | 55 | 53 | 51 | 49 | 47 |
| R N/mm² | 2160 | 2070 | 1950 | 1820 | 1700 | 1580 |
| Rp 0.2 N/mm² | 1440 | 1520 | 1540 | 1520 | 1490 | 1440 |
| A% | 8 | 9.8 | 10.4 | 10.6 | 10.7 | 10.8 |
| C% | 30 | 42 | 48 | 52 | 53 | 53 |
| Kv J | 28 | 31 | 32 | 28 | 28 | 27 |
| Tempering at °C | 100 | 150 | 200 | 250 | 300 | 350 |