

WILHELM JUNGERMANN GMBH

STAHLVERTRIEB & PARTNER FÜR DIE WERKZEUGINDUSTRIE

Material information sheet

Material number: 1.2210

Material: 115 Cr V 3

Steel group: alloyed tool steel, Cr-V, Cr-V-Mn, Cr-V-Si -steels

Usage:

toll steel for cold working:

Screw drills and screw tap, reamer, cutter, spot facer, centre drill, scraper, engraving tools, piercing die, ram, ejector, metal saw, and awl

Chemical composition:

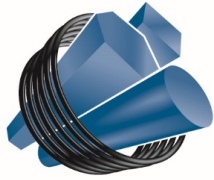
| | C | Si | Mn | P | S | Cr | V |
|---------|------|------|------|-------|-------|------|------|
| Minimum | 1,10 | 0,15 | 0,20 | 0,00 | 0,00 | 0,50 | 0,07 |
| Maximum | 1,25 | 0,30 | 0,40 | 0,030 | 0,030 | 0,80 | 0,12 |

Heat treatment:

| Hot-forming | Soft annealing (+A) | hardening | | tempering |
|---------------|------------------------|--------------|--------------|--------------|
| | | in oil | in water | cold working |
| 850 - 1050 °C | 710 - 740 °C | 760 - 840 °C | 760 - 840 °C | 180 - 250 °C |

Mechanical characteristics:

| | |
|----------------------------------|---|
| Hardening after tempering | $R_m \leq 750 \text{ MPa}$ |
| Surface hardness after hardening | ~ 64 HRC |
| Quenching and tempering values: | |
| Tempered at ~ 100 °C | ~ 64 HRC |
| Tempered at ~ 200 °C | ~ 61 HRC |
| Tempered at ~ 300 °C | ~ 58 HRC $\approx R_m = 2180 \text{ MPa}$ |
| Tempered at ~ 400 °C | ~ 51 HRC $\approx R_m = 1740 \text{ MPa}$ |
| Tempered at ~ 500 °C | ~ 44 HRC $\approx R_m = 1385 \text{ MPa}$ |



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Stocks:

Bars:

- Bar length 2 m
- Tolerance data: EN 10278
- Technical delivery conditions: EN 10277, surface quality class 2

| execution | dimension |
|-----------------|-----------|
| | round |
| Tolerance | h 8 |
| +AC+C+A+C+SL+PL | 3 – 10 |
| +AC+C+SL | 12 – 20 |