



**16MnCrS5**  
Special alloy case-hardening steel

(W. NR. 1.7139)

**CHEMICAL COMPOSITION:** (heat analysis according to the EN ISO 683-3:2022 standard)

|      | C %  | Si % | Mn % | P %   | S %   | Cr % | Cu%  |
|------|------|------|------|-------|-------|------|------|
| FROM | 0,14 | -    | 1,00 | -     | 0,020 | 0,80 | -    |
| TO   | 0,19 | 0,40 | 1,30 | 0,025 | 0,040 | 1,10 | 0,40 |

**\*MECHANICAL FEATURES:** (according to the EN 10277:2018 standard)

| Thickness<br>mm | Soft annealed* + peeled rolled<br>(+A +SH) | Soft annealed* + cold drawn<br>(+A+C) |
|-----------------|--|---------------------------------------|
|                 | Hardness maximum values<br>HB              | Hardness maximum values<br>HB         |
| ≥5≤10           | -  | 260                                   |
| >10≤16          | -  | 250                                   |
| >16≤40          | 207  | 245                                   |
| >40≤63          | 207  | 240                                   |
| >63≤100         | 207  | 240                                   |

\* Delivery condition: subjected to a softening treatment according to the maximum hardness prescription.

**PROPERTIES :**

**Improved machinability:**

Upon request it can be supplied with improved machinability with Pb (lead) addition, for example Pb=0,15%÷0,35%

**Weldability:**

It is a MnCr alloy steel, easily hot machinable and weldable.

**Hardenability:**

It has a low hardenability and therefore it can show good core features till thicknesses of about 20 mm.

**Notes :**

**CORRESPONDENCE WITH OTHER STANDARDS ( purely as an indication ) :**

|                            |                             |                              |                                    |                              |
|----------------------------|-----------------------------|------------------------------|------------------------------------|------------------------------|
| <b>UNI 7846</b><br>16MnCr5 | <b>EN 10084</b><br>16MnCrS5 | <b>DIN 17210</b><br>16MnCrS5 | <b>EN 10277-4:2008</b><br>16MnCrS5 | <b>AFNOR 35-551</b><br>16MC5 |
|----------------------------|-----------------------------|------------------------------|------------------------------------|------------------------------|