

Special steel – heat treatments nad characteristics

| Special steel characteristics Chart 1 | |
|---------------------------------------|--|
| Symbol | Explanation |
| +CH | Core Hardened |
| +H | Hardened |
| +Z15 | 15% average reduction in area at failure |
| +Z25 | 25% average reduction in area at failure |
| +Z35 | 35% average reduction in area at failure |
| | |
| Note: symb | pols are separated form preceded symbols by the plus sign (+). These are |

symbols for special requirements - usually the characteristics of steel. For practical reasons, they are considered as symbols for steel products.

| Coating type Chart 2 | |
|----------------------|---|
| Symbol | Explanation |
| +A | With hot dip aluminium coating |
| +AR | With aluminium silicon alloy coating |
| +AS | Al-Si coating |
| +AZ | Al-Zn coating |
| +CE | Electrolytic chromium-chromium oxide coating |
| +CU | Copper coating |
| +IC | Inorganic coating |
| +OC | Organic coating |
| +S | Hot dip tin coating |
| +SE | Tin coating (electrolytic) |
| +T | Hot dip lead tin alloy coating |
| +TE | Lead tin alloy coating (eletrolytic) |
| +Z | Galvanised (hot dip zinc) coating |
| +ZA | With hot dip zinc aluminum coating, additionally annealed |
| +ZE | Zinc coating (electrolytic) |
| +ZF | With hot dip zinc iron coating, additionally annealed |
| +ZN | Zinc iron coating (eletrolytic) |
| Note: Syn | nbols are separated form preceded symbols by the plus sign (+). With symbols, |

Note: Symbols are separated form preceded symbols by the plus sign (+). With symbols, that could be confused with others, an additional letter "S" is used, ex. +SA



| • | eat treatment Chart 3 |
|--------|---|
| Symbol | Explanation |
| +A | Soft annealed |
| +AC | Annealed to accheave spherodization of the carbides |
| +AR | As rolled |
| +AT | Solution annealed |
| +C | Cold drawn |
| +Cnnn | Cold drawn to obtain N/mm2 |
| +CR | Cold rolled |
| +DC | Delivery contiton to manufacturer's discretion |
| +FP | Treated to ferritic-pearlite structure and hardness |
| +HC | Hot rolled followed by cold hardening |
| +1 | Isothermal annealing |
| +LC | Cold drawn/ soft |
| +M | Thermo mechanical rolling |
| +N | Normalized |
| +NT | Normalized and tempered |
| +P | Precipitation hardened |
| +Q | Quenched |
| +QA | Air quenched and tempered |
| +Q0 | Liquid (oil) quenched and tempered |
| +QT | Quenched and tempered |
| +QW | Water quenched |
| +RA | Recrystallization annealed |
| +S | Treated for cold shearing |
| +SR | Cold drawn and stress relieved |
| +T | Tempered |
| +TH | Treated to hardness range |
| +U | Untreated |
| +WW | Warm worked |

character

