



we wire the world

Heat Treatment

Solution heat treatment
and water quenching

Homogenising
(heat treatment)

Soft annealing

Recovery heat treatment

Artificial ageing /
natural ageing

Stabilising heat treatment

**Development of custom tailored multistage
heat treatment processes with our small scale
laboratory furnace in the prototype phase.**

Overview of the conventional conditions as per DIN EN 515

condition*	meaning
O	annealed – products achieving the required annealed properties after hot forming processes may be designated as O temper
H12	strain-hardened – 1/4 hard
H14	strain-hardened – 1/2 hard
H16	strain-hardened – 3/4 hard
H18	strain-hardened – 4/4 hard (fully hardened)
H19	strain-hardened – extra hard
H22	strain-hardened and partially annealed – 1/4 hard
H24	strain-hardened and partially annealed – 1/2 hard
H26	strain-hardened and partially annealed – 3/4 hard
H28	strain-hardened and partially annealed – 4/4 hard (fully hardened)
H32	strain-hardened and stabilized – 1/4 hard
H34	strain-hardened and stabilized – 1/2 hard
H36	strain-hardened and stabilized – 3/4 hard
H38	strain-hardened and stabilized – 4/4 hard (fully hardened)
T3	solution heat-treated, cold worked and naturally aged
T39	solution heat-treated and cold worked an appropriate amount to achieve the specified mechanical properties. Cold work may be carried out before or after natural ageing
T4	solution heat-treated and naturally aged
T6	solution heat-treated and then artificially aged
T7	solution heat-treated and then artificially overaged
T73	solution heat-treated and then fully artificially overaged to achieve the best corrosion resistance of the T7x tempers
T8	solution heat-treated, cold worked and then artificially aged
T9	solution heat-treated, artificially aged and then cold worked

* interim conditions or conditions outside the norm are possible on request



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