

Material specification sheet

Saarstahl - C15R (Cm15)

Material No.: Former brand name: International steel grades:

1.1140 R1 BS: 040A15,080M15

AFNOR: C15E, XC12, XC15, XC18

SAE: 1015

Material group: Case hardening steels DIN EN 10084

 Chemical composition:
 C
 Si
 Mn
 S
 other

 (Typical analysis in %)
 0,15
 0,25
 0,40
 0,020 (0,035)
 (Pb)

Application: Plain carbon case hardening steel for parts with a required core tensile

strength of 600 - 800 N/mm² and good wearing resistance as piston bolts, camshafts, levers and other vehicle and mechanical engineering

components. Suitable for direct hardening.

Hot forming and Forging or hot rolling: 1150 - 900°C

heat treatment: Normalising: 890 - 920°C/air

Soft annealing: 650 - 700°C/furnace

Carburising: 880 - 980°C

Core hardening: 880 - 920°C/water

Intermediate annealing: 650 - 700°C

Case hardening: 780 - 820°C/water

Case hardening: 780 - 820°C/wate

Tempering: 150 - 200°C

Mechanical Treated for cold shearability, +S: -

Properties: Soft annealed, +A: max. 143 HB

Treated for strength, +TH:

Treated for ferrite and pearlite structure and hardness range,

+FP: -

after hardening and tempering at 200°C:

Diameter d [mm]	d <= 16	16 <d <="40</th"><th>40 <d <="100</th"></d></th></d>	40 <d <="100</th"></d>
Tensile strength R _m [N/mm²]	min. 800	min. 600	-