

Forged Rods

Product standards of CK45N Forged materials (SEW 550)

1. Chemical Compositions and Tolerance %

C	Mn	Si	P	S	Cr	Ni	Cu	Mo
0.42-0.5	0.5-0.8	max0.35	max0.035	0.02-0.035	max0.29	max0.29	max0.35	max0.07
±0.02	±0.04	+0.03	+0.005	±0.005	+0.1	+0.1		+0.03

2. Size tolerance: Tolerance of the Outer Diameter is -0/+3mm, to keep the circumference.

3. Heat treatment: Normalization

4. Mechanical Properties

T.S.(MPa) N/mm ²	Y.S.(MPa) N/mm ²	E.L.(%)	Impact Test (ISOV,J) -20°C
Min.590-720	Min.305	Min.16	Min.27(average of three samples at least)

5. Grain Size: According to ASTM E-112 5-8

6. Non-metallic inclusion: According to ASTM E-45, test method A≤3.5 B≤3.5 C≤2.0 D≤2.0

7. UST: According to SEP 1921/84 Group 3 C/c pass

8. Surface Quality: Smooth surface, lower specific surface area, oxide scale free, inclusion-free, non-fracture surface, non-remaining shrinkage holes, air-hole free, flat-sawing on the two ends without inclination, no processing dimple, tolerance on the straightness: ≤3mm/M.

9. Package: Bulk, painting the blue/black mark on the one end, stamping the grade (C45N), heat number, OD and weight on the other end.

10. Certification complying with EN 10204 3.1B terms.

11. Quality certificates: In Chinese and English version, indicating all information mentioned above.

Forged Rods

Product standards of 42CrMoS4+QT Forged materials (EN 10250)

1. Chemical Compositions and Tolerance %

C	Mn	Si	P	S	Cr	Ni	Cu	Mo
0.39-0.44	0.60-0.90	0.15-0.35	Max0.035	0.02-0.035	0.90-1.20	Max0.25	Max0.25	0.15-0.25
±0.02	±0.04	+0.03	+0.005	±0.005	±0.05	+0.05	+0.05	±0.03
A1	Sn							
0.015-0.04	Max0.03							

2. Size tolerance: Tolerance of the Outer Diameter is -0/+3mm, to keep the circumference.

3. Heat treatment: Quenching + Tempering+ Turning

4. Mechanical Properties

T.S.(MPa) N/mm2	Y.S.(MPa) N/mm2	E.L.(%)	Impact Test (ISOV,J) +20°C
Min.600	Min.390	Min.16	Min.22(average of three samples at least)

5. Grain Size: Max. 5 According to ASTM E-112.

6. Non-metallic inclusion: According to ASTM E-45, test method A A≤3.5 B≤3.5 C≤2.0 D≤2.0

7. UST: According to SEP 1921/84 Group 3 C/c pass

8. Surface Quality: Smooth surface, lower specific surface area, oxide scale free, inclusion-free, non-fracture surface, non-remaining shrinkage holes, air-hole free, flat-sawing on the two ends without inclination, no processing dimple, tolerance on the straightness: ≤3mm/M.

9. Package: Bulk, painting the blue “+” mark on the one end, stamping the grade (42CM4), heat number, OD and weight on the other end.

10. Certification complying with EN 10204 3.1B terms.

11. Quality certificates: In Chinese and English version, indicating all information mentioned above.

Forged Rods

Product standards of C15R Forged materials (EN 10250)

1. Chemical Compositions and Tolerance %

C	Mn	Si	P	S
0.12-0.18	0.3-0.6	max0.40	Max0.035	0.02-0.040
±0.02	±0.04	+0.03	+0.005	±0.005

2. Size tolerance: Tolerance of the Outer Diameter is -0/+3mm, to keep the circumference.

3. Heat treatment: Normalization

4. Mechanical Properties

Hardness HB
Max. 143

5. Grain Size: According to ASTM E-112 5-8

6. Non-metallic inclusion: According to ASTM E-45, test method A A≤3.5 B≤3.5 C≤2.0 D≤2.0

7. UST: According to SEP 1921/84 Group 3 C/c pass

8. Surface Quality: Smooth surface, lower specific surface area, oxide scale free, inclusion-free, non-fracture surface, non-remaining shrinkage holes, air-hole free, flat-sawing on the two ends without inclination, no processing dimple, tolerance on the straightness: ≤3mm/M.

9. Package: Bulk, painting the gray/black mark on the one end, stamping the grade (C15R+N), heat number, OD and weight on the other end.

10. Certification complying with EN 10204 3.1B terms.

11. Quality certificates: in Chinese and English version, indicating all information mentioned above.