

Material specification sheet

Saarstahl - C35EC (Cq35)

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|---------------|--------------------|-----------------------------|
| Material No.: | Former brand name: | International steel grades: |
| 1.1172 | RKS32, RKS37 | BS: AFNOR: SAE: |

Material group: Steel for cold extrusion according to DIN EN 10263

| Chemical composition: (Typical analysis in %) | C | Si | Mn | P | S | Cu |
|--|------|------|------|--------|--------|-------|
| | 0,35 | 0,20 | 0,70 | <0,025 | <0,025 | <0,25 |

Application: Plain carbon cold heading steel for screws and nuts.

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|--|-----------------|-------------------|
| Hot forming and heat treatment: | Soft annealing: | 680 - 710°C |
| | Hardening: | 860 - 890°C/water |
| | Tempering: | 530 - 670°C |

Mechanical Properties:

Spheroidized annealed (+AC) or spheroidized annealed + peeled (+AC+PE)

| Diameter d [mm] | > 2 - 5 | > 5 - 10 | > 10 - 40 |
|---|---------|----------|-----------|
| Tensile strength R_m [N/mm ²] | - | max. 560 | max. 560 |
| Reduction of area Z [%] | - | min. 60 | min. 60 |

Untreated + cold drawn + spheroidized annealed (+U+C+AC)

| Diameter d [mm] | > 2 - 5 | > 5 - 10 | > 10 - 40 |
|---|----------|----------|-----------|
| Tensile strength R_m [N/mm ²] | max. 550 | max. 540 | max. 540 |
| Reduction of area Z [%] | min. 62 | min. 62 | min. 62 |

Untreated + cold drawn + spheroidized annealed + stretch reduced by roll drawing (+U+C+AC+LC)

| | | | |
|--|----------|----------|-----------|
| Diameter d [mm] | > 2 - 5 | > 5 - 10 | > 10 - 40 |
| Tensile strength R_m [N/mm²] | max. 590 | max. 580 | max. 580 |
| Reduction of area Z [%] | min. 60 | min. 60 | min. 60 |

Spheroidized annealed + cold drawn (+AC+C)

| | | | |
|--|---------|----------|-----------|
| Diameter d [mm] | > 2 - 5 | > 5 - 10 | > 10 - 40 |
| Tensile strength R_m [N/mm²] | - | max. 660 | max. 670 |
| Reduction of area Z [%] | - | - | - |