

## Material specification sheet

### Saarstahl - C4C

Material No.: German standard: International steel grades:

**1.0303** **DIN EN 10263:2** **SAE:**  
**JIS:**

**Material group:** Cold heading and cold extrusion steel according to DIN EN 10263-2

Chemical composition: (typical analysis at Saarstahl in %)	C	Si	Mn	P	S	Al
		0,05	0,04	0,38	max. 0,020	max. 0,025

Deviation in chemical composition on request

**Application:** Steel rod, bars and wire for cold heading and cold extrusion; steel not intended for heat treatment after cold working

**Hot forming and heat treatment:**

**Mechanical properties:**

Untreated (+U) or untreated + peeled (+U+PE)

Diameter d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Tensile strength $R_m$ [N/mm <sup>2</sup> ]	-	max. 390	max. 390	max. 390
Reduction of area Z [%]	-	min. 70	min. 70	min. 70

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

Diameter d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Tensile strength $R_m$ [N/mm <sup>2</sup> ]	-	max. 330	max. 330	max. 330
Reduction of area Z [%]	-	min. 75	min. 75	min. 75

Untreated + cold drawn (+U+C)

Diameter d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Tensile strength $R_m$ [N/mm <sup>2</sup> ]	-	max. 470	max. 460	-
Reduction of area Z [%]	-	min. 66	min. 66	-

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

<b>Durchmesser d [mm]</b>	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
<b>Zugfestigkeit R<sub>m</sub> [N/mm<sup>2</sup>]</b>	max. 320	max. 310	max. 300	-
<b>Brucheinschnürung Z [%]</b>	min. 77	min. 77	min. 77	-

## Untreated + cold drawn + spheroidized + skin passed (+U+C+AC+LC)

<b>Durchmesser d [mm]</b>	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
<b>Zugfestigkeit R<sub>m</sub> [N/mm<sup>2</sup>]</b>	max. 360	max. 350	max. 350	-
<b>Brucheinschnürung Z [%]</b>	min. 73	min. 73	min. 73	-

## Spheroidized + cold drawn (+AC+C)

<b>Durchmesser d [mm]</b>	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
<b>Zugfestigkeit R<sub>m</sub> [N/mm<sup>2</sup>]</b>	-	max. 410	max. 400	-
<b>Brucheinschnürung Z [%]</b>	-	min. 70	min. 70	-