

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	0,044

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 ²]	-	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 ²]	-	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 ²]	-	max. 470	max. 460	-
Reduction of area Z [%]	-	min. 66	min. 66	-

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

Durchmesser d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Zugfestigkeit R_m [N/mm²]	max. 320	max. 310	max. 300	-
Brucheinschnürung Z [%]	min. 77	min. 77	min. 77	-

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

Durchmesser d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Zugfestigkeit R_m [N/mm²]	max. 360	max. 350	max. 350	-
Brucheinschnürung Z [%]	min. 73	min. 73	min. 73	-

 Spheroidized + cold drawn (+AC+C)

Durchmesser d [mm]	> 2 - 5	> 5 - 10	> 10 - 40	> 40 - 100
Zugfestigkeit R_m [N/mm²]	-	max. 410	max. 400	-
Brucheinschnürung Z [%]	-	min. 70	min. 70	-