

Suppliers: SCHMOLZ + BICKENBACH

Trade name Dux 4962
Shape of product: Sheets, cold rolled
 Sheets, hot rolled
 Semi-finished products
 Bars, forged
 Bars, hot rolled
 Steel castings

They are not necessarily valid for the indicated material, but for the complete steel group.

Address: SCHMOLZ + BICKENBACH, Eupener Straße 70, 40549 Düsseldorf,
 Postfach 10 46 53, 40037 Düsseldorf, Tel.: (02 11) 5 09-0,
 Fax: (02 11) 5 09-25 94, Telex: 8 58 992-0 sb d

Suppliers: Von Cramm & Co. (GmbH & Co.)

Trade name X12CrNiWTi16-13
Shape of product: Precision investment casting
 Tubes, spun
 Steel castings

They are not necessarily valid for the indicated material, but for the complete steel group.

Address: Von Cramm & Co. (GmbH & Co.), Sophienterrasse 21, 20149 Hamburg,
 Tel.: (0 40) 44 13 35-39, Telex: 2 162 025 vco d, Fax: (0 40) 4 10 68 64
 Vertretung für Deutschland, Schweiz und Österreich:
 (GB-246, GB-305, GB-790)

Element	min. %	max. %	Others	Footnote
C	0	0,15		
Si	0	0,50		
Mn	0	1,00		
P	0	0,045		
S	0	0,030		
Cr	15,0	17,0		
Ni	12,5	14,5		
Ti	0,40	0,60		
W	2,50	3,00		

Mechanical properties

Heat-treatment

Hot working

1150 950 °C

Harden, resp. quenching resp. solution heat treatment

1110 1130 °C

Holding time

0,5 1 h

Air

Water

I

Ageing resp. temper only after warm-cold forming

750 800 °C

750 °C

64

64

N/mm²Specific electric resistance
(20 °C)

0,85

0,85

(Ohm · mm²)/m

Specific heat

500

500

J/(kg · K)

Physical properties

Mean thermal expansion coefficient

20°C - 100°C

712 °F

15,5

0,6

15,5

10(-6)K(-1)

20°C - 200°C

16,1

0,94

16,1

10(-6)K(-1)

20°C - 300°C

16,6

0,22

16,6

10(-6)K(-1)

20°C - 400°C

752 °F

17,1

0,5

17,1

10(-6)K(-1)

20°C - 500°C

932 °F

17,7

0,83

17,7

10(-6)K(-1)

20°C - 600°C

1112 °F

18,3

10,14

18,3

10(-6)K(-1)

20°C - 700°C

18,6

10,33

18,6

10(-6)K(-1)

20°C - 800°C

19,0

10,55

19,0

10(-6)K(-1)

Heat conduction at
20°C

15

15

W/(K·m)

100°C
200°C

16

16

W/(K·m)

300°C

17

17

W/(K·m)

400°C

19

19

W/(K·m)

500°C

20

20

W/(K·m)

600°C

21

21

W/(K·m)

700°C

22

22

W/(K·m)

Density
(20 °C)

7,9

7,9

kg/dm³

Weldability

Arc welding method

ja/oui/yes

Shielded arc method

Standard comparison

Country

Federal Republic of Germany

Symbol

X12CrNiWTi16-13