



# **Stainless Steel - Grade 410 & 420**

*(Versie 1.3)*

*Wormerveer, januari 2011*  
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## Content

Table 1	Composition ranges for 410 grade stainless steel	3
Table 2	Composition ranges for 420 grade stainless steel	3
Table 3	International Standards Conversion Table for stainless steel	4
Table 4	Chemical Composition for 410 grade and 420 grade stainless steel	5
Table 5	Mechanical Composition for 410 grade and 420 grade stainless steel	6
Table 7	Rockwell Hardness for 410 grade and 420 grade stainless steel	7

**Table 1.** Composition ranges for 410 grade stainless steel  
*Chemical Formula*

		C	Mn	Si	P	S	Cr	Mo	Ni <i>(optional)</i>	N*
<b>Grade 410</b>	<b>Min.</b>	-	-	-	-	-	11.5	-	-	-
	<b>Max.</b>	0.15	1.00	1.00	0.04	0.03	13.5	-	1.00	-

**Table 2.** Composition ranges for 420 grade stainless steel  
*Chemical Formula*

		C	Mn	Si	P	S	Cr	Mo	Ni <i>(optional)</i>	N*
<b>Grade 410</b>	<b>Min.</b>	0.15	-	-	-	-	12.0	-	-	-
	<b>Max.</b>	-	1.00	1.00	0.04	0.03	14.0	-	1.00	-

**\*Abbreviations**

C	-	Carbon
Mn	-	Manganese
Si	-	Silicon
P	-	Phosphorus
S	-	Sulfur
Cr	-	Chromium
Mo	-	Molybdenum
Ni	-	Nickel
N	-	Nitrogen

**Table 3.** International Standards Conversion Table for stainless steel  
*Including Chemical Composition & Mechanical Properties*

U.S.A.	Germany	Germany	France	Japan	Italy	Sweden	U.K.	E.U.	Spain	Russia
AISI	DIN 17006	W.N. 17007	AFNOR	JIS	UNI	SIS	BSI	EURONORM	UNE	GOST
410	X 6 Cr 13 X 10 Cr 13 X 15 Cr 13	1.4000 1.4006 1.4024	Z 10 C 13 Z 12 C 13	SUS 410	X 12 Cr 13	23 02	410S21	X 12 Cr 13	X 12 Cr 13	12Kh13

**Table 4.** Chemical Composition for 410 grade and 420 grade stainless steel

Standard of Country					Chemical Composition							
USA	German		UK	Japan	C Max	SI Max	Mn Max	P max	S Max	Ni	Cr	Mo
AISI	W-Nr	DIN KURZNAME	BS	JIS								
410	14006	X10 Cr 13	410S21	SUS 410	0.15	1	1	0.04	0.03	0.6	11.50-13.50	-
420	14034	X 40 Cr 13	420S45	SUS 420 J2	0.26 - 0.40	1	1	0.04	0.03	0.6	12.00-14.00	-

**Table 5.** Mechanical Composition for 410 grade and 420 grade stainless steel

Standard of Country				Chemical Composition								
USA	German		UK	Japan	Tensile test(min)				Hardness (Max)			
		DIN KURZNAME			Y/S		T/S					
AISI	W-Nr		BS	JIS	kg/mm2	N/mm2	kgf/mm2	N/mm2	Elongation	HB	HRB	Hv
410	14006	X10 Cr 13	410S21	SUS 410	21	206	45	441	20	200	93	210
420	14021	X 20 Cr 13	420S29	SUS 420 J1	23	226	53	520	18	223	97	234
420	14034	X 40 Cr 13	420S45	SUS 420 J2	23	226	55	539	18	235	99	247

**Table 6.** Rockwell Hardness for 410 grade and 420 grade stainless steel

Grade 410	Min. 45 Max. 48
Grade 420	Min. 51 Max. 54

410	Used for “ <i>Non-Cutting</i> ” A-instruments
420	Used for “ <i>Cutting</i> ” A-instruments