

Series	Description
<b>NI-WRC</b> <i>metric and imperial sizes</i>	Induction hardened and ground stainless steel linear shafts steel grade: X105CrMo17 (W1.4125) / $\varnothing 5 - 50$ mm / $\varnothing 1/4'' - 2''$

### Steel grades correspondents

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI SAE ASTM
X105CrMo17	1.4125	X105CrMo17	-	-	SUS440C	(95Ch18)	440C

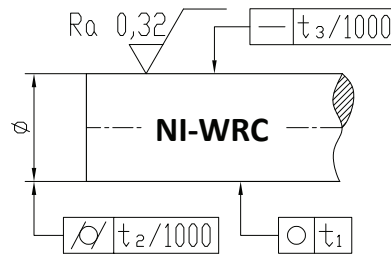
### Chemical composition - % by weight

Steel grade	Norm	C	Si	Mn	P	S	Cr	Ni.	Mo	V
X105CrMo17	EN 10088-3	0.95 ÷ 1.2	max. 1.0	max. 1.0	max. 0.040	max. 0.03	16.0 ÷ 18.0	-	0.4 ÷ 0.8	-

### Mechanical properties for steel bars

Steel grade	Diameter $\varnothing$ mm	Tensile strength $R_m$ N/mm <sup>2</sup>	Yield strength $R_{p0.2}$ N/mm <sup>2</sup>	Elongation $A_5$ %	Hardness Brinell HB
X105CrMo17+A	5 < $\varnothing$ ≤ 50	min. 758	min. 448	min. 7	max. 285

*A=annealed*



Shaft Diameter $\varnothing$	Weight	Series	Standard length	Hardening depth SHD	Roundness (circularity)		Parallelism (cylindricity)		Straightness t3	Standard tolerance ISO h6
					t1 max.	t2 max.	t2 max.	t3 max.		
mm	kg/m		mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	mm/m	$\mu\text{m}$	
5	0.15	NI-WRC 5	3000	0.4	4	6	0.25	0 / -8		
6	0.22	NI-WRC 6	3000	0.4	4	6	0.25	0 / -8		
8	0.39	NI-WRC 8	6000	0.4	4	6	0.20	0 / -9		
10	0.62	NI-WRC 10	6000	0.4	4	6	0.20	0 / -9		
12	0.89	NI-WRC 12	6000	0.6	5	8	0.20	0 / -11		
14	1.21	NI-WRC 14	6000	0.6	5	8	0.20	0 / -11		
15	1.39	NI-WRC 15	6000	0.6	5	8	0.20	0 / -11		
16	1.58	NI-WRC 16	6000	0.6	5	8	0.20	0 / -11		
20	2.46	NI-WRC 20	6000	0.9	6	9	0.20	0 / -13		
25	3.85	NI-WRC 25	6000	0.9	6	9	0.15	0 / -13		
30	5.55	NI-WRC 30	6000	0.9	6	9	0.15	0 / -13		
40	9.86	NI-WRC 40	6000	1.5	7	11	0.15	0 / -16		
50	15.41	NI-WRC 50	6000	1.5	7	11	0.15	0 / -16		

Shaft Diameter $\varnothing$		Weight	Series	Standard length	Hardening depth SHD	Roundness (circularity)		Parallelism (cylindricity)		Straightness t3	Standard tolerance Class "L"
mm	inch					t1 max.	t2 max.	t2 max.	t3 max.		
mm	inch	kg/m		inch	inch	inch	inch	in/ft	inch		
6.35	1/4	0.25	NI-WRC 6.35	118.11	0.016	0.00016	0.00024	0.00308	-0.0005 / -0.001		
9.525	3/8	0.56	NI-WRC 9.525	236.22	0.016	0.00016	0.00024	0.00246	-0.0005 / -0.001		
12.7	1/2	0.99	NI-WRC 12.7	236.22	0.024	0.00020	0.00031	0.00246	-0.0005 / -0.001		
15.875	5/8	1.55	NI-WRC 15.875	236.22	0.024	0.00020	0.00031	0.00246	-0.0005 / -0.001		
19.05	3/4	2.24	NI-WRC 19.05	236.22	0.035	0.00024	0.00035	0.00246	-0.0005 / -0.001		
25.4	1	3.98	NI-WRC 25.4	236.22	0.035	0.00024	0.00035	0.00185	-0.0005 / -0.001		
31.75	1 1/4	6.21	NI-WRC 31.75	236.22	0.059	0.00028	0.00043	0.00185	-0.0005 / -0.001		
38.1	1 1/2	8.94	NI-WRC 38.1	236.22	0.059	0.00028	0.00043	0.00185	-0.0006 / -0.0011		
50.8	2	15.90	NI-WRC 50.8	236.22	0.059	0.00028	0.00043	0.00185	-0.0006 / -0.0013		

- ✓ Surface hardness: 58±2 HRC
- ✓ Surface roughness: Ra: max. 0.32  $\mu\text{m}$
- ✓ Length tolerance: ±200 mm
- ✓ Hardening depth, SHD: according to EN ISO 15787
- ✓ On request: special lengths, tolerances and dimensions
- ✓ Additional chrome plating on request
- ✓ The hardening depth (SHD according to EN ISO 15787 or Rht according to DIN 6773) is defined as the distance from the steel surface up to the point where the hardness value is 80% of minimum guaranteed value of the surface hardness and is established in accordance with ISO 13012, depending on shaft's size.
- ✓ Approximately 75 mm of both shaft ends are not guaranteed to be either in diameter tolerance or in the standard hardness values.