NIMET

WHV

Induction hardened and chrome plated hollow linear shafts

Ni-WHV

C60E

Dimensions
OD: Ø12 - 60 mm

Surface hardness
63±2 HRC

Chrome layer thickness
12±5 µm

Chrome layer microhardness
900-1100HV0.1

Surface roughness
Ra max. 0.20 µm

Standard indicative length
6400 (-0/+50) mm
other, on request

Surface hardening depth, SHD
according to EN ISO 15787

On request
special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength R_m N/mm²	Yield strength $R_{p\,0.2}$ N/mm²	Elongation A_5 %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

NI-WHV / Metric

Series	Outside diameter OD mm	Inside diameter ID mm	Surface hardening depth SHD (min. + tol.) mm	Roundness t_1 max. µm	Parallelism t_2 max. µm	Straightness t_3 max. mm/m	Standard tolerance ISO h7 µm
NI-WHV 12x4	12	4	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 12x7	12	7	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 16x7	16	7	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 20x14	20	14	0.6 + 0.5	9	12	0.20	0 / -21
NI-WHV 25x15	25	15	0.8 + 0.8	9	12	0.15	0 / -21
NI-WHV 30x18	30	18	0.9 + 0.8	9	12	0.15	0 / -21
NI-WHV 40x28	40	28	1.2 + 1.1	11	15	0.15	0 / -25
NI-WHV 40x26	40	26	1.2 + 1.1	11	15	0.15	0 / -25
NI-WHV 50x30	50	30	1.5 + 1.2	11	15	0.15	0 / -25
NI-WHV 60x36	60	36	1.5 + 1.2	13	15	0.15	0 / -30

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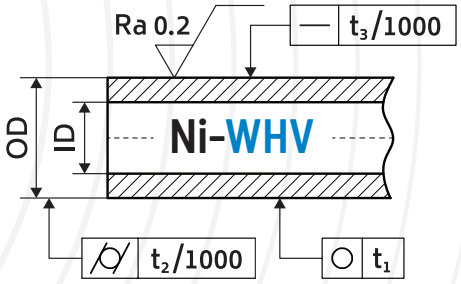

Dimensions
OD: Ø5/8" - 2"

Surface hardness
63±2 HRC

Chrome layer thickness
12±5 µm / 0.0005±0.0002"

Chrome layer microhardness
900-1100HV0.1

Surface roughness
Ra max. 0.20 µm

Standard indicative length
6400 (-0/+50) mm / 251.96 (-0/+2)"
other, on request

Surface hardening depth, SHD
according to EN ISO 15787

On request
special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength R_m N/mm²	Yield strength $R_{p\,0.2}$ N/mm²	Elongation A_5 %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

Steel grades correspondences

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C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

NI-WHV / Imperial

Series	Outside diameter OD		Inside diameter ID		Surface hardening depth SHD (min. + tol.)	Roundness t_1 max.	Parallelism t_2 max.	Straightness t_3 max.	Standard tolerance Class "L"
	mm	inch	mm	inch	inch	inch	inch	inch/ft	inch
NI-WHV 15.875x6.35	15.875	0.625	6.35	0.25	0.024 + 0.020	0.000315	0.000472	0.00246	-0.0005 / -0.001
NI-WHV 19.05x11.125	19.05	0.75	11.125	0.438	0.035 + 0.032	0.000354	0.000472	0.00246	-0.0005 / -0.001
NI-WHV 25.4x15.494	25.4	1	15.494	0.61	0.035 + 0.032	0.000354	0.000472	0.00185	-0.0005 / -0.001
NI-WHV 31.75x18.288	31.75	1.25	18.288	0.72	0.035 + 0.032	0.000354	0.000472	0.00185	-0.0005 / -0.001
NI-WHV 38.1x22.606	38.1	1.5	22.606	0.89	0.047 + 0.043	0.000433	0.000591	0.00185	-0.0006 / -0.0011
NI-WHV 50.8x31.75	50.8	2	31.75	1.25	0.059 + 0.043	0.000433	0.000591	0.00185	-0.0006 / -0.0013

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