

NORD-LOCK X-SERIES STEEL WASHERS WITH ELECTRO ZINC PLATED BOLT (GRADE 5)

Bolt size	Washer size	Pitch [TPI]	Oil, $G_f=75\%$ $\mu_{th}=0,08, \mu_h=0,18$		Cu/C paste, $G_f=75\%$ $\mu_{th}=0,08, \mu_h=0,19$		Dry, $G_f=55\%$ $\mu_{th}=0,19, \mu_h=0,2$	
			Torque [ftlb]	Clamp load [lb]	Torque [ftlb]	Clamp load [lb]	Torque [ftlb]	Clamp load [lb]
5/16	NL8	18	17,7	3674	18,3	3674	17,8	2694
3/8	NL3/8"	16	31	5424	32	5424	31,4	3978
1/2	NL1/2"	13	74,5	9920	77,1	9920	76	7271
9/16	NL14	12	107	12712	110,8	12712	109,3	9322
5/8	NL16	11	147,6	15786	152,8	15786	150,9	11576
3/4	NL3/4"	10	258,2	23335	267,4	23335	266	17112

Cu/C paste = copper/graphite paste (Molykote® 1000)

Oil = WD40 has been used.

G_f = Ratio of yield point. When tightening according to guidelines and with no deviation, this is the pre-stress achieved expressed as % of yield point.

μ_{th} = thread friction coefficient

μ_h = under head friction coefficient

Thread friction coefficients have theoretical values but are verified through testing.

Under head friction coefficients have been established by tests.

Torque guidelines for other bolt grades are available through your local Nord-Lock representative.

NORD-LOCK X-SERIES STEEL WASHERS WITH NON-PLATED BOLT (GRADE 8)

Bolt size	Washer size	Pitch [TPI]	Oil, $G_f=71\%$ $\mu_{th}=0,08, \mu_h=0,14$		Cu/C paste, $G_f=75\%$ $\mu_{th}=0,07, \mu_h=0,15$	
			Torque [ftlb]	Clamp load [lb]	Torque [ftlb]	Clamp load [lb]
5/16	NL8	18	20	4915	22	5192
3/8	NL3/8"	16	36	7256	38	7665
1/2	NL1/2"	13	86	13270	91	14017
9/16	NL14	12	123	16771,4	131	17963
5/8	NL16	11	170	21117	180	22307
3/4	NL3/4"	10	296	31214	315	32973

- Torque guide
nord-lock.com
- 2D/3D CAD models
and current dimensions
nord-lock.com/cad