

NORD-LOCK X-SERIES STEEL WASHERS WITH ELECTRO ZINC PLATED BOLT GRADE 8.8

Bolt size	Washer size	Pitch [mm]	Oil, $G_f=75\%$ $\mu_{th}=0,15, \mu_h=0,19$		Cu/C paste, $G_f=75\%$ $\mu_{th}=0,13, \mu_h=0,18$		Dry, $G_f=62\%$ $\mu_{th}=0,18, \mu_h=0,2$	
			Torque [Nm]	Clamp load [kN]	Torque [Nm]	Clamp load [kN]	Torque [Nm]	Clamp load [kN]
M6	NLX6	1,0	13	9,7	12	9,7	12	8,0
M8	NLX8	1,25	32	18	29	18	29	15
M10	NLX10	1,5	62	28	57	28	56	23
M12	NLX12	1,75	107	40	99	40	97	33
M14	NLX14	2,0	170	55	157	55	155	46
M16	NLX16	2,0	260	75	240	75	237	62
M20	NLX20	2,5	510	118	470	118	464	97

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 10.9

Bolt size	Washer size	Pitch [mm]	Oil, $G_f=71\%$ $\mu_{th}=0,15, \mu_h=0,15$		Cu/C paste, $G_f=75\%$ $\mu_{th}=0,13, \mu_h=0,15$	
			Torque [Nm]	Clamp load [kN]	Torque [Nm]	Clamp load [kN]
M6	NLX6	1,0	15,5	12,9	15,5	13,6
M8	NLX8	1,25	37	23	37	25
M10	NLX10	1,5	73	37	73	39
M12	NLX12	1,75	126	54	126	57
M14	NLX14	2,0	201	74	201	78
M16	NLX16	2,0	307	100	306	106
M20	NLX20	2,5	602	156	600	165

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