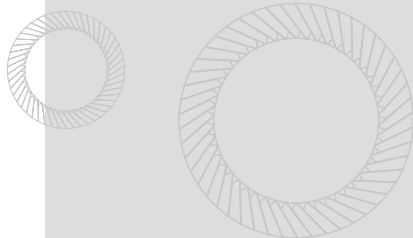


Safety Washers



Mowing machine



Safety washer



Heavy-duty crane



Safety washer



Motorbike



Safety washer



Photovoltaics



Safety washer

References

Original SCHNORR® safety washers.

The original SCHNORR® safety washers were developed as a reliable and economic bolt locking device with the basic principle of a disc spring. This ingenious form combines the advantage of security through friction and mechanical locking.

Original SCHNORR® safety washers are now used world wide where secure fastening connections to counter the effect of vibration are required.

Applications are manifold, from automotive engineering to machine, aggregate and plant engineering. SCHNORR® safety washers are used, for example, in mowing machines, textile machines, machine tools and a lot of other applications.

Tightening Torques

TIGHTENING TORQUES FOR ORIGINAL SCHNORR® SAFETY WASHERS BLACKENED

Table is valid for shank bolts with metric standard thread acc. to DIN ISO 262, head dimensions of hexagonal bolts acc. to DIN EN ISO 4014 to 4018, hexalobular external driving head bolts acc. to DIN 34800, cylindrical bolts acc. to DIN EN ISO 4762 and hole "medium" acc. to DIN EN 20273.

All specifications are non-binding approximate values.

Nominal size	Tightening torque (Nm) for $\mu K = \mu G = 0,14$			
	Type S		Type VS	
	Strength grade			
	5.8	8.8	10.9	12.9
M 4	1,7	3,6	5,3	6,2
M 5	3,3	7,2	10,5	12,3
M 6	5,7	12,4	18,2	21,2
M 7	-	20,6	30,3	35,4
M 8	13,9	30,0	44,1	51,6
M 10	27,8	59,4	86,9	102,3
M 12	47,3	102,3	150,7	176,0
M 14	75,9	162,8	239,8	280,5
M 16	117,7	253,0	371,8	434,5
M 18	162,8	361,9	515,9	603,9
M 20	229,9	510,4	727,1	850,3
M 22	310,2	697,4	994,4	1162,7
M 24	394,9	877,8	1249,6	1461,9
M 27	583,0	1293,6	1841,4	2154,9
M 30	790,9	1756,7	2501,4	2928,2
M 33	1072,5	2377,1	3385,8	3961,1
M 36	1378,3	3055,8	4352,7	5094,1

TIGHTENING TORQUES FOR ORIGINAL SCHNORR® SAFETY WASHERS MECHANICALLY GALVANIZED & ZINC LAMELLAR SYSTEMS

Table is valid for shank bolts with metric standard thread acc. to DIN ISO 262, head dimensions of hexagonal bolts acc. to DIN EN ISO 4014 to 4018, hexalobular external driving head bolts acc. to DIN 34800, cylindrical bolts acc. to DIN EN ISO 4762 and hole "medium" acc. to DIN EN 20273.

All specifications are non-binding approximate values.

Nominal size	Tightening torque (Nm) for $\mu K = \mu G = 0,10$			
	Type S		Type VS	
	Strength grade			
	5.8	8.8	10.9	12.9
M 4	1,3	2,9	4,3	5,0
M 5	2,6	5,7	8,4	9,8
M 6	4,5	9,9	14,5	16,9
M 7	-	16,3	23,9	27,9
M 8	11,0	23,8	35,0	40,9
M 10	22,1	47,3	69,3	80,3
M 12	37,4	80,3	118,8	138,6
M 14	60,5	128,7	189,2	221,1
M 16	92,4	198,0	290,4	339,9
M 18	128,7	284,9	405,9	475,2
M 20	180,4	399,6	568,7	665,5
M 22	242,0	544,5	774,4	906,4
M 24	310,2	687,5	979,0	1145,1
M 27	455,4	1006,5	1434,4	1678,6
M 30	619,3	1370,6	1952,5	2284,7
M 33	836,0	1846,9	2631,2	3078,9
M 36	1076,9	2380,4	3390,2	3967,7

TIGHTENING TORQUES FOR ORIGINAL SCHNORR® SAFETY WASHERS CORROSION RESISTANT

Table is valid for Shank bolts with metric standard thread acc. to DIN ISO 262, head dimensions of hexagonal bolts acc. to DIN EN ISO 4014 to 4018, hexalobular external driving head bolts acc. to DIN 34800, cylindrical bolts acc. to DIN EN ISO 4762 and hole "medium" acc. to DIN EN 20273" made of A2/A4.

All specifications are non-binding approximate values.

Nominal size	Tightening torque (Nm) for $\mu K = \mu G = 0,20$		
	Type S		Type VS
	Strength grade		
	50	70	80
M 4	1,1	1,2	1,8
M 5	1,4	2,9	3,9
M 6	2,6	5,6	7,6
M 7	4,5	9,7	13,0
M 8	11,1	23,5	31,6
M 10	22,3	48,4	63,8
M 12	38,3	81,4	110,0
M 14	61,6	130,9	174,9
M 16	94,6	201,3	269,5
M 18	134,2	286,0	380,6
M 20	190,3	407,0	543,4
M 22	249,7	536,8	715,0
M 24	312,4	668,8	891,0
M 27	463,1	-	-
M 30	628,1	-	-
M 33	856,9	-	-
M 36	1097,8	-	-