

Date: October 8th, 2020

Change of Mechanical Properties for Plastic Screws

Dear Valued Customer,

We hope you are doing well and appreciate your constant business support of NBK.

We are writing to inform you about a change of mechanical properties specifications to our Plastic Screws.

The values of the "torsional torque" and "tensile rupture load" for the plastic screws listed in the "NBK Catalog 2017" and our website will be changed due to new, updated calculation methods. The values of the heat resistant temperature of PEEK and PEEK GF30 (PEEK containing glass fiber) screws will also be changed.

The products themselves will not change due to these changes.

Thank you for your understanding.

[Materials subject to changes in the values of torsional torque and tensile breaking load]

Material	Remarks
PEEK, PEEK GF30, PPS, RENY, PC, PP, PVDF, PFA	For the new and old values, refer to the <u>attachments</u> [Changes in torsional torque and tensile rupture load]

[Materials subject to changes in heat resistant temperature and details of the changes]

Material	Changes in heat resistant temperature
PEEK, PEEK GF30	New: 260°C Old: 180°C * This is the value for the resin material. The allowable operating temperature of the product changes with performance conditions such as tightening torque.

[Change Effective Period]

July 30th, 2020

Please do not hesitate to contact us at info.us@nbk1560.com, if you have any questions.

Sincerely yours,

Hiroki Goto,

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[Changes in Torsional Torque / Tensile Rupture Load]

*Values in the chart are for reference only. They are not guaranteed values. The recommended torque is 50% of the torsional torque.

Material: PEEK

- Hex Socket Head Cap Screws SPE-C (P.744)
- Hex Socket Head Cap Screws - Full Thread SPE-FT (P.745)
- Phillips Cross Recessed Pan Head Machine Screws SPE-P (P.749)
- Phillips Cross Recessed Flat Head Machine Screws SPE-F (P.750)
- Hex Socket Set Screws SPE-T (P.751)
- Hex Head Bolts SPE-H (P.752)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.7	0.038	0.02	81	59
M2	0.071	0.06	165	160
M2.6	0.15	0.16	291	312
M3	0.21	0.3	405	430
M4	0.47	0.64	738	765
M5	0.96	1.28	1,234	1,230
M6	1.64	2.26	1,749	1,670
M8	3.68	5.98	3,261	3,090
M10	7.9	10.8	5,256	4,900
M12	13.64	18.6	7,650	7,360

- Hex Socket Head Cap Screws SPE-C (INCH) (website only)
- Phillips Cross Recessed Pan Head Machine Screws SPE-P (INCH) (website only)
- Slotted Pan Head Machine Screws SPE-PS (INCH) (website only)
- Slotted Flat Head Machine Screws SPE-FS (INCH) (website only)
- Hex Head Bolts / Inch SPE-H (INCH) (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
#2-56	0.1	0.07	181	173
#4-40	0.19	0.17	306	288
#6-32	0.33	0.34	459	431
#8-32	0.61	0.62	746	703
#10-24	0.84	0.97	919	914
#10-32	0.95	1.06	1,090	1,064
1/4-20	2.04	1.87	1,742	1,648

● Hex Socket Head Cap Screws with Special Low Profile SPE-LC (P.746)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M3	0.13	0.15	400	370
M4	0.47	0.54	744	730
M5	0.68	1.11	1,272	1,170
M6	1.36	1.72	1,727	1,666

● Pan Head Machine Screws for Precision Instruments SPE-MC (P.747)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.2	0.025	0.012	58	46.7
M1.4	0.026	0.014	59	46.9
M1.6	0.038	0.02	76	52

● Flat Head Machine Screws for Precision Instruments SPE-MF (P.748)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.2	0.03	0.019	58	53.7
M1.4	0.037	0.03	82	73.9
M1.6	0.043	0.042	93	84.3

Material: PEEK GF30

● Hex Socket Head Cap Screws SPEG-C (INCH) (website only)

● Phillips Cross Recessed Pan Head Machine Screws SPEG-P (INCH) (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
#4-40	0.23	0.23	434	476
#6-32	0.44	0.43	644	662

Material: RENY

- Hex Socket Head Cap Screws SPA-C (P.761)
- Phillips Cross Recessed Pan Head Machine Screws SPA-P (P.765)
- Phillips Cross Recessed Flat Head Machine Screws SPA-F (P.766)
- Hex Head Bolts SPA-H (P.767)
- Threaded Rods SPA-Z (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.7	0.041	0.03	98	80
M2	0.101	0.1	350	303
M2.6	0.22	0.24	611	588
M3	0.36	0.39	853	635
M4	0.85	0.79	1,499	1,470
M5	1.65	1.77	2,407	2,450
M6	2.74	2.94	3,106	3,140
M8	6.22	7.85	5,335	5,100
M10	11.39	12.75	7,646	6,900
M12	15.93	24.5	7,511	8,700
M16	38.9	39	19,987	18,000

- Phillips Cross Recessed Pan Head Machine Screws SPA-P (INCH) (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
#4-40	0.28	0.3	618	725

- Hex Socket Head Cap Low Profile Cap Screws SPA-LC (P.762)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M3	0.2	0.31	799	740
M4	0.74	0.62	1,286	1,325
M5	1.08	1.2	1,976	2,050
M6	2.26	2.15	2,767	2,798

● Pan Head Machine Screws for Precision Instruments SPA-MC (P.763)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.2	0.029	0.018	98	80.9
M1.4	0.027	0.018	79	61.4
M1.6	0.035	0.023	103	54.1

● Flat Head Machine Screws for Precision Instruments SPA-MF (P.764)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.2	0.029	0.022	110	98.5
M1.4	0.047	0.039	150	127.7
M1.6	0.052	0.056	156	127.7

Material: PPS

● Hex Socket Head Cap Screws SPS- C (P.755)

● Phillips Cross Recessed Pan Head Machine Screws SPS-P (P.757)

● Phillips Cross Recessed Flat Head Machine Screws SPS-F (P.758)

● Hex Head Bolts SPS-H (P.759)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M2	0.084	0.08	217	236
M3	0.29	0.36	558	570
M4	0.69	0.71	966	980
M5	1.23	1.42	1,548	1,570
M6	2.05	2.11	2,028	2,250
M8	5.48	5.29	3,701	3,720
M10	8.87	11.8	5,438	5,890
M12	13.7	20.6	6,805	7,850

● Hex Socket Head Cap Screws with Special Low Profile SPS-LC (P.756)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M3	0.17	0.25	533	492
M4	0.63	0.46	898	789
M5	1	1.04	1,568	1,190
M6	1.74	1.7	1,891	1,811



Couplings, Screws, Clampers

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Material: PVDF

- Hex Head Bolts SPV-H (P.771)
- Hex Socket Head Cap Screws SPV-C (P.772)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M3	0.11	0.22	227	107
M4	0.26	0.4	429	314
M5	0.44	0.64	688	640
M6	0.81	0.88	960	940
M8	1.56	2.65	1,803	1,810
M10	3.16	3.9	2,824	2,700
M12	5.73	9.2	4,249	3,980

Material: PP

● Hex Head Bolts SPP-H (P.773)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M4	0.22	0.23	276	270
M5	0.39	0.51	437	440
M6	0.69	0.8	634	620
M8	1.58	2.2	1,143	1,100
M10	3.32	3.4	1,705	1,800
M12	5.36	5.3	2,497	2,400

Material: PC

- Phillips Cross Recessed Pan Head Machine Screws SPC-P (P.777)
- Hex Socket Head Cap Screws SPC-C (website only)
- Phillips Cross Recessed Flat Head Machine Screws SPC-F (website only)
- Hex Head Bolts SPC-H (website only)
- Threaded Rods SPC-Z (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M1.7	0.022	0.02	51	47
M2	0.055	0.05	107	112
M2.6	0.12	0.12	196	227
M3	0.18	0.22	266	300
M4	0.39	0.54	481	515
M5	0.8	1.03	797	750
M6	1.2	1.37	1,136	1,080
M8	3.2	2.94	2,088	1,470

Material: PFA

- Hex Head Bolts SPFA-H (website only)

Thread Size	Torsional Torque (N·m)		Tension Rupture Load (N)	
	New	Old	New	Old
M4	0.06	0.04	118	106
M5	0.1	0.21	191	175
M6	0.2	0.35	267	261
M8	0.44	0.85	494	482