



E.J. Brooks Bolt & Cable Seal Specifications

Updated:
10/1/2004

Product		Seal Classifications			Critical Characteristics																			
Sales Order Number	Product Description	CTPAT Compliant?	ISO/PAS 17712 Rev. 2 Classification	ASTM F1157-04	ASTM Seal Group	Average Pull apart (Tensile) force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Shear (Cutting) force	ASTM Grade	ISO/PAS Grade (see note 4)	Average Bending moment	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Pull apart (Tensile) force (high temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (low temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Notes
Intermodal II																								
9254100	2.65" Intermodal II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area) with case hardened bolt	Yes	High Security Seal	3-E-F-D-D-E-D	3	3754 lb [16.7 kN] [1703 kgf]	E	H.S.	5516 lb [24.5 kN] [2502 kgf]	F	H.S.	52 ft-lb [71 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3374 lb [15.0 kN] [1530 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1
9254108	2.65" Intermodal II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area)	Yes	High Security Seal	3-E-F-D-D-E-D	3	3982 lb [17.7 kN] [1806 kgf]	E	H.S.	4626 lb [20.6 kN] [2098 kgf]	F	H.S.	103 ft-lb [140 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3766 lb [16.8 kN] [1708 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1, 2
9254095	3.5" Intermodal II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area)	Yes	High Security Seal	3-E-F-D-D-E-D	3	4713 lb [21.0kN] [2138 kgf]	E	H.S.	5477 lb [24.4 kN] [2484 kgf]	F	H.S.	63ft-lb [85 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	4717 lb [21.0 kN] [2140 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1
	2.65" Intermodal II Bolt seal (3/8" dia. straight steel bolt shank, 5/16" dia. locking area) from Brooks Asia	Yes	High Security Seal	3-E-F-D-D-E-E	3	3903 lb [17.4kN] [1770 kgf]	E	H.S.	6860 lb [30.5kN] [3112 kgf]	F	H.S.	60 ft-lb [81 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	4243 lb [18.9 kN] [1925 kgf]	E	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	1
	4" Intermodal II Bolt seal (3/8" dia. straight steel bolt shank, 5/16" dia. locking area) from Brooks Asia	Yes	High Security Seal	3-E-F-D-F-E-F	3	3720 lb [16.5kN] [1687 kgf]	E	H.S.	4890 lb [21.8 kN] [2218 kgf]	F	H.S.	56 ft-lb [76 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	3770 lb [16.8 kN] [1710 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Intermodal IV																								
	Intermodal IV Bolt seal (3/8" dia. straight steel bolt shank, 5/16" dia. locking area) from Brooks Asia	Yes	High Security Seal	3-E-F-D-D-E-D	3	3943 lb [17.5 kN] [1789 kgf]	E	H.S.	3920 lb [17.4 kN] [1778 kgf]	F	H.S.	59 ft-lb [80 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3580 lb [15.9 kN] [1624 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	
Intermodal V																								
	Intermodal V Bolt seal (3/8" dia. straight steel bolt shank, 5/16" dia. locking area) from Brooks Asia	Yes	High Security Seal	3-E-F-D-D-E-D	3	4413 lb [19.6 kN] [2002 kgf]	E	H.S.	4060 lb [18.1 kN] [1842 kgf]	F	H.S.	41 ft-lb [56 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3207 lb [14.3 kN] [1455 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	
Rod-Lok II																								
9254120	2.65" Rodlok II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area)	Yes	High Security Seal	3-E-F-D-D-E-D	3	4718 lb [21.0 kN] [2140 kgf]	E	H.S.	5813 lb [25.9 kN] [2637 kgf]	F	H.S.	76 ft-lb [103 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3850 lb [17.1 kN] [1746 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1
8904020, 8904040	2.65" Rodlok II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area) with case hardened bolt	Yes	High Security Seal	3-E-F-D-E-E-E	3	3704 lb [16.5 kN] [1680 kgf]	E	H.S.	5516 lb [24.5 kN] [2502 kgf]	F	H.S.	109 ft-lb [148 Nm]	D	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	4092 lb [18.2 kN] [1856 kgf]	E	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	1, 2
8904000	3.5" Rodlok II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area)	Yes	High Security Seal	3-E-F-D-D-E-D	3	3740 lb [16.6 kN] [1696 kgf]	E	H.S.	4626 lb [20.6 kN] [2098 kgf]	F	H.S.	131 ft-lb [178 Nm]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	3330 lb [14.8 kN] [1510 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1, 2
8904150	3.5" Rodlok II Bolt seal (3/8" dia. straight 1018 steel bolt shank, 5/16" dia. locking area) with Model B lock body and powder coated bolt	Yes	High Security Seal	3-E-F-D-E-E-F	3	3454 lb [15.4 kN] [1567 kgf]	E	H.S.	4626 lb [20.6 kN] [2098 kgf]	F	H.S.	127 ft-lb [172 Nm]	D	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	3590 lb [16.0 kN] [1628 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2
8905000	3.5" Rodlok II Bolt seal (3/8" dia. curved 1018 steel bolt shank, 5/16" dia. locking area)	Yes	High Security Seal	3-E-F-D-E-E-E	3	3702 lb [16.5 kN] [1679 kgf]	E	H.S.	4626 lb [20.6 kN] [2098 kgf]	F	H.S.	120 ft-lb [163 Nm]	D	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	3596 lb [16.0 kN] [1631 kgf]	E	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	1
Trans-Rod																								
9254065, 9254165	4" Trans-rod Bolt seal (3/8" dia. 1060 steel bolt shank, 5/16" dia. locking area - heat treated Rc 38-42)	Yes	High Security Seal	3-E-F-D-F-E-F	3	4466 lb [19.9 kN] [2026 kgf]	E	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	248 ft-lb [336 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	4016 lb [17.9 kN] [1822 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1



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9254049, 9254058	4" Trans-rod Bolt seal (3/8" dia. curved 1060 steel bolt shank, 5/16" dia. locking area - heat treated Rc 38-42)	No	Security Seal	3-E-F-C-C-E-F	3	4232 lb [18.8 kN] [1920 kgf]	E	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	272 ft-lb [369 Nm]	C	H.S.	20-29 ft-lb [27-40 Nm]	C	S	4388 lb [19.5 kN] [1990 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
9254087	4" Trans-rod Bolt seal (3/8" dia. curved bolt shank, 5/16" dia. locking area) - 1144 steel heat treated Rc 48-52	Yes	High Security Seal	3-E-F-D-E-F-F	3	4286 lb [19.1 kN] [1944 kgf]	E	H.S.	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	200 ft-lb [271 Nm]	D	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	5022 lb [22.3 kN] [2278 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
9254250, 9254255	6" GM Trans-rod Bolt seal (3/8" dia. curved 1060 steel bolt - heat treated Rc 38-42)	Yes	High Security Seal	3-F-F-D-F-F-F	3	8830 lb [39.3 kN] [4005 kgf]	F	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	171 ft-lb [232 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	7816 lb [34.8 kN] [3545 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Trans-Lok																								
9250300	4" GM Trans-lok Bolt seal (3/8" dia. curved 1060 steel bolt shank, 5/16" dia. locking area - heat treated Rc 38-42)	Yes	High Security Seal	3-F-F-D-E-F-F	3	6284 lb [28.0 kN] [2850 kgf]	F	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	137 ft-lb [186 Nm]	D	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	6290 lb [28.0 kN] [2853 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
9250257	6" Ford Trans-lok Bolt seal (3/8" dia. curved 1060 steel bolt shank, 5/16" dia. locking area - heat treated Rc 38-42) with Chrysler body	Yes	High Security Seal	3-F-F-D-F-F-F	3	6572 lb [29.2 kN] [2981 kgf]	F	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	201 ft-lb [273 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	6466 lb [28.8 kN] [2933 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Reusable Trans-Lok																								
9257144	4 3/8" Reusable Trans-lok w/ cross hole - 1144 Steel bolt	Yes	High Security Seal	3-E-F-D-F-E-F	3	6112 lb [27.2 kN] [2772 kgf]	E	H.S.	8550 lb [38.0 kN] [3878 kgf]	F	H.S.	160 ft-lb [217 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5504 lb [24.5 kN] [2497 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Spin-Loks																								
-	3 1/4" UPS Ring Spin-lok Bolt seal (1060 steel - heat treated Rc 38-42)	Yes	High Security Seal	3-F-F-D-F-F-F	3	6702 lb [29.8 kN] [3040 kgf]	F	H.S.	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	192 ft-lb [260 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	6220 lb [27.7 kN] [2821 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2
9254770	4" Collet Spin-lok Bolt seal (1144 steel bolt - heat treated Rc 48-52)	Yes	High Security Seal	3-F-F-D-F-F-F	3	7392 lb [32.9 kN] [3353 kgf]	F	H.S.	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	200 ft-lb [271 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	7184 lb [32.0 kN] [3259 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2, 3
9254761	5" Collet Spin-lok Bolt seal (2" grooves - 1144 steel bolt - heat treated Rc 48-52)	Yes	High Security Seal	3-F-F-D-F-F-F	3	7158 lb [31.8 kN] [3247 kgf]	F	H.S.	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	162 ft-lb [220 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	6880 lb [30.6 kN] [3121 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 3
9254750	5" Collet Spin-lok Bolt seal (1 1/2" grooves - 1144 steel bolt - heat treated Rc 48-52), curved	Yes	High Security Seal	3-F-F-D-F-F-F	3	6284 lb [28.0 kN] [2850 kgf]	F	H.S.	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	180 ft-lb [244 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	6290 lb [28.0 kN] [2853 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2, 3
	6" Collet Spin-lok Bolt seal (1144 steel bolt - heat treated Rc 48-52)	Yes	High Security Seal	3-F-F-D-F-F-F	3	5992 lb [26.7 kN] [2718 kgf]	F	H.S.	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	163 ft-lb [221 Nm]	D	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	6586 lb [29.3 kN] [2987 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2, 3
Multi-Lok (ball style)																								
89190XX	1/16" Multi-lok Cable seal (7x7 galvanized steel non-preformed cable)	No	Indicative Seal	1-C-B-F-B-C-B	1	698 lb [3.1 kN] [317 kgf]	C	S	727 lb [3.2 kN] [330 kgf]	B	S	2000 Cycles minimum	F	H.S.	10-19 ft-lb [14-26 Nm]	B	I	882 lb [3.9 kN] [400 kgf]	C	S	10-19 ft-lb [14-26 Nm]	B	I	1
89480XX	3/32" Multi-lok Cable seal (7x7 galvanized steel non-preformed cable)	No	Indicative Seal	1-D-E-F-B-D-B	1	1710 lb [7.6 kN] [776 kgf]	D	S	1422 lb [6.3 kN] [645 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	10-19 ft-lb [14-26 Nm]	B	I	2362 lb [10.5 kN] [1071 kgf]	D	H.S.	10-19 ft-lb [14-26 Nm]	B	I	1
89590XX	1/8" Multi-lok (ball style) Cable seal (7x7 galvanized steel preformed cable)	No	Security Seal	1-D-E-E-C-E-C	1	2892 lb [12.9 kN] [1312 kgf]	D	H.S.	1852 lb [8.2 kN] [840 kgf]	E	H.S.	1242 Cycles	E	H.S.	20-29 ft-lb [27-40 Nm]	C	S	3067 lb [13.6 kN] [1391 kgf]	E	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1



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	1/8" Multi-lok (ball style) Cable seal (7x7 stainless steel cable)	No	Security Seal	1-E-E-F-C-D-C	1	3157 lb [14.0 kN] [1432 kgf]	E	H.S.	1397 lb [6.2 kN] [634 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	2501 lb [11.3 kN] [1149 kgf]	D	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1
	1/8" Multi-lok (ball style) Cable seal (7x7 galvanized steel non-preformed cable)	No	Security Seal	1-E-E-F-C-D-C	1	3093 lb [13.8 kN] [1403 kgf]	E	H.S.	1727 lb [7.7 kN] [783 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	2753 lb [12.2 kN] [1249 kgf]	D	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1
	1/8" Multi-lok (ball style) Cable seal (7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-E-E-F-E-E-E	1	3172 lb [14.1 kN] [1439 kgf]	E	H.S.	1447 lb [6.4 kN] [656 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	2986 lb [13.3 kN] [1354 kgf]	E	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	1
1/8" Clip style Multi-Lok																								
	1/8" Clip style Multi-lok Cable seal (7x7 galvanized steel preformed cable)	Yes	High Security Seal	1-E-E-D-D-D-D	1	3007 lb [13.4 kN] [1364 kgf]	E	H.S.	1852 lb [8.2 kN] [840 kgf]	E	H.S.	630 Cycles	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	2838 lb [12.6 kN] [1287 kgf]	D	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1, 2
	1/8" Clip style Multi-lok Cable seal (7x7 stainless steel cable)	No	Security Seal	1-E-E-F-C-D-C	1	3240 lb [14.4 kN] [1470 kgf]	E	H.S.	1397 lb [6.2 kN] [634 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	2501 lb [11.1 kN] [1134 kgf]	D	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1
	1/8" Clip style Multi-lok Cable seal (7x7 galvanized steel non-preformed cable)	No	Security Seal	1-E-E-F-C-E-C	1	3227 lb [14.4 kN] [1464 kgf]	E	H.S.	1820 lb [8.1 kN] [826 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	3303 lb [14.7 kN] [1498 kgf]	E	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1
1/8" Keeper Sealock																								
	1/8" Keeper Sealock Cable seal (7x7 galvanized steel preformed cable)	Yes	High Security Seal	1-E-E-F-E-E-D	1	3625 lb [16.1 kN] [1644 kgf]	E	H.S.	1852 lb [8.2 kN] [840 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	3540 lb [15.8 kN] [1612 kgf]	E	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	1, 2
	1/8" Keeper Sealock Cable seal (7x7 galvanized steel non-preformed cable)	No	Security Seal	1-E-E-F-C-E-C	1	3250 lb [14.5 kN] [1474 kgf]	E	H.S.	1803 lb [8.0 kN] [818 kgf]	E	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	3206 lb [14.3 kN] [1454 kgf]	E	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1
Cable Seal 2000																								
94000XX	Cable 2000 Cable seal (3/16" dia. 7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-F-F-F-E-F-F	1	5382 lb [23.9 kN] [2441 kgf]	F	H.S.	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	40-49 ft-lb [54-67 Nm]	E	H.S.	5348 lb [23.8 kN] [2426 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
	Cable 2000 Cable seal (3/16" dia. 7x19 galvanized steel non-preformed cable)	Yes	High Security Seal	1-F-F-F-F-F-F	1	5803 lb [25.8 kN] [2632 kgf]	F	H.S.	2587 lb [11.5 kN] [1173 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5363 lb [23.9 kN] [2433 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Sealock Jr.																								
9700049	Cable 2000 portion (3/16" dia. 7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-F-F-F-F-F-F	1	5324 lb [23.7 kN] [2415 kgf]	F	H.S.	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5436 lb [24.2 kN] [2466 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
	Bullet point / Intermodal II portion (3/16" dia. 7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-E-F-F-F-F-F	1	4740 lb [21.1 kN] [2150 kgf]	E	H.S.	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5164 lb [23.0 kN] [2342 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
3/16" Keeper Sealock																								
	3/16" Keeper Sealock Cable seal (7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-F-F-F-F-F-F	1	6494 lb [28.9 kN] [2946 kgf]	F	H.S.	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5752 lb [25.6 kN] [2609 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2



E.J. Brooks Bolt & Cable Seal Specifications

Updated:
10/1/2004

Product		Seal Classifications			Critical Characteristics																			
Sales Order Number	Product Description	CTPAT Compliant?	ISO/PAS 17712 Rev. 2 Classification	ASTM F1157-04	ASTM Seal Group	Average Pull apart (Tensile) force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Shear (Cutting) force	ASTM Grade	ISO/PAS Grade (see note 4)	Average Bending moment	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Pull apart (Tensile) force (high temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (low temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Notes
	3/16" Keeper Sealock Cable seal (7x19 galvanized steel non-preformed cable)	Yes	High Security Seal	1-F-F-F-F-E-F	1	5560 lb [24.7 kN] [2522 kgf]	F	H.S.	2587 lb [11.5 kN] [1173 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	4890 lb [21.8 kN] [2218 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2
3/16" Clip-Lok																								
	3/16" Clip-lok Cable seal (flag & lock body) (3/16" dia. 7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-E-F-F-F-E-F	1	3494 lb [15.5 kN] [1585 kgf]	E	H.S.	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	3730 lb [16.6 kN] [1692 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
1/4" Clip-Lok																								
	1/4" Clip-lok Cable seal (Mushroom & lock body) (7x19 galvanized steel preformed cable)	Yes	High Security Seal	1-F-F-F-F-F-F	1	5602 lb [24.9 kN] [2541 kgf]	F	H.S.	4052 lb [18 kN] [1838 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	5192 lb [23.1 kN] [2355 kgf]	F	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1
Model A																								
89014XX	Model A Cable seal (1/4" dia. galvanized steel preformed cable)	Yes	High Security Seal	1-E-F-F-D-E-F	1	7714 lb [34.3 kN] [3499 kgf]	E	H.S.	4052 lb [18 kN] [1838 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	30-39 ft-lb [41-53 Nm]	D	H.S.	7076 lb [31.5 kN] [3210 kgf]	E	H.S.	50+ ft-lb [68+ Nm]	F	H.S.	1, 2
Model B																								
89032XX	Model B Cable seal (1/4" dia. galvanized steel preformed cable)	No	Security Seal	1-E-F-F-C-D-C	1	3158 lb [14.0 kN] [1432 kgf]	E	H.S.	4052 lb [18 kN] [1838 kgf]	F	H.S.	2000 Cycles minimum	F	H.S.	20-29 ft-lb [27-40 Nm]	C	S	2960 lb [13.2 kN] [1343 kgf]	D	H.S.	20-29 ft-lb [27-40 Nm]	C	S	1, 2
Twist Rod																								
8908040, 8908060, 8908000	Twist Rod seal, curved	No	Indicative Seal	4-D-E-D-F-D-F	4	1757 lb [7.8 kN] [797 kgf]	D	S	1214 lb [5.4 kN] [551 kgf]	E	H.S.	10 ft-lb [14 Nm]	D	I	50+ ft-lb [68+ Nm]	F	H.S.	1702 lb [7.6 kN] [772 kgf]	D	S	50+ ft-lb [68+ Nm]	F	H.S.	1

Conversions: 1 lb = .004448 kN; 1 lb = .454 kgf; 1 ft-lb = 1.356 Nm

Notes:

- 1) Critical characteristics were obtained from independent testing at Tri-State University in Angola, Indiana. Most tests were conducted during the fall of 2002 and spring of 2003 by Dr. William G. Meyers, Registered Professional Engineer in Indiana, P.E. Number 14614. Other tests were conducted at later times by Dr. William G. Meyers of Tri-State University.
- 2) The shear test results for these products were taken from another seal that uses the same bolt/cable diameter, material and heat treat
- 3) These seals were not shear tested to failure in order to preserve the shear test tooling.
- 4) For ISO/PAS Grades, "H.S." = High Security Seal rating; "S" = Security Seal rating; "I" = Indicative Seal rating

General Material Properties

-	1/4" diameter 1018 Steel	-	-	-	-	-	-	3042 lb [13.5 kN] [1380 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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E.J. Brooks Bolt & Cable Seal Specifications

Updated:
10/1/2004

Product		Seal Classifications			Critical Characteristics																			
Sales Order Number	Product Description	CTPAT Compliant?	ISO/PAS 17712 Rev. 2 Classification	ASTM F1157-04	ASTM Seal Group	Average Pull apart (Tensile) force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Shear (Cutting) force	ASTM Grade	ISO/PAS Grade (see note 4)	Average Bending moment	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (room temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Pull apart (Tensile) force (high temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Average Impact force (low temp)	ASTM Grade	ISO/PAS Grade (see note 4)	Notes
-	5/16" diameter 1018 Steel	-	-	-	-	-	-	-	4114 lb [18.3 kN] [1866 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/8" diameter 1018 Steel - Soft	-	-	-	-	-	-	-	4626 lb [20.6 kN] [2098 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/8" diameter 1018 Steel - Case hardened Rockwell 15N 79.5-81.5	-	-	-	-	-	-	-	5516 lb [24.5 kN] [2502 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	5/16" diameter 1060 Steel - Soft	-	-	-	-	-	-	-	4700 lb [20.9 kN] [2132 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/8" diameter 1060 Steel - heat treated Rc 38-42	-	-	-	-	-	-	-	10,720 lb [47.7 kN] [4863 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/8" diameter 1144 Steel - Soft	-	-	-	-	-	-	-	8550 lb [38.0 kN] [3878 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/8" diameter 1144 Steel - heat treated Rc 48-52	-	-	-	-	-	-	-	12,000+ lb [53.4+ kN] [5443+ kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	1/16" diameter 7x7 galvanized steel cable	-	-	-	-	-	-	-	727 lb [3.2 kN] [330 kgf]	B	S	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/32" diameter 7x7 galvanized steel cable	-	-	-	-	-	-	-	1422 lb [6.3 kN] [645 kgf]	E	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	1/8" diameter 7x7 galvanized steel cable	-	-	-	-	-	-	-	1852 lb [8.2 kN] [840 kgf]	E	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	3/16" diameter 7x19 galvanized steel cable	-	-	-	-	-	-	-	2590 lb [11.5 kN] [1175 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	
-	1/4" diameter 7x19 galvanized steel cable	-	-	-	-	-	-	-	4052 lb [18 kN] [1838 kgf]	F	H.S.	-	-	-	-	-	-	-	-	-	-	-	-	

Conversions: 1 lb = .004448 kN; 1 lb = .454 kgf; 1 ft-lb = 1.356 Nm