

# Laboratory Report # 5115.14

 <b>SFS intec, Inc. Wyomissing, PA</b>	<b>LABORATORY TEST REPORT</b>	
	Date: 7/7/2014 Test: Performance	No: 5115.14 By: J. Cole

**SCOPE:**

Determine the pull-out, tensile, shear, torsional, and drill test values for the BMSD-S3-#10 fastener per customer request.

**TEST MATERIAL:**

<b>Fastener:</b> Description: BMSD-S3-#10x1-PN-T20-BIN Materials: 1401556	<b>Drill Test Settings:</b> 1800-2000 RPM 40lb. load
<b>Pull-out Substrate:</b> 18 gauge Hat channel - 90HRB 16 gauge plate - 62HRB	

**EQUIPMENT:**

Dillon Model DTM tensile test machine.  
 Dillon 2000 Lb load cell  
 DeWalt DW 284 2000 rpm max Screw Gun.

**TEST METHOD:**

<b>Tensile Break Load:</b> Per T-0756	<b>Time-Drill Test:</b> Per T-0767
<b>Shear Break Load:</b> Per T-0752	<b>Torsional Break Load:</b> Per T-0753
<b>Pull-out:</b> Per T-0750	

**TEST DATA:**

Trial	Pull-out		Shear	Tensile	Torsional	Drill Time	
	18 ga Hat	16 ga plate				18 ga Hat	16 ga plate
1	791.84	602.41	1326.4	2146.8	50	2.74	1.23
2	1017.7	630.5	1358.7	2083.5	55	3.49	1.44
3	937.75	528.86	1335.2	2056	50	3.67	1.25
4	789.23	581.85	1392.3	2008.2	60	3.24	1.33
5	954.2	576.78	1364.4	1891.9	55	3.41	1.09
6	920.97	612.8	\	\	\	\	\
Average	901.9	588.9	1355.4	2037.3	54.0	3.31	1.27
Std. Dev.	92.31	35.46	25.99	95.48	4.16	0.35	0.13

**Conclusion:**

The strength values expressed herein are ultimate strength values, with the drill times being in seconds, which were the result of laboratory testing. The expressed values may differ from those obtained from field testing. Appropriate safety factors should always be utilized in design and other possible failure modes should also be considered.