

# Physical Testing Laboratory Report



<b>Project Number:</b>	188,321	<b>Customer:</b>	Welders & Presses	<b>TSM:</b>	M. Roman
<b>Date Received:</b>	05 March 2018	<b>Location:</b>	Chesterfield, MI	<b>RSM:</b>	G. Schnabel
<b>Report Date:</b>	22 March 2018	<b>Customer ID:</b>	108347	<b>P.O. Number:</b>	

- The results published within this report relate only to the items tested
- This report shall not be reproduced except in full without written approval of the issuing authority
- Unless otherwise specified, all tests are performed and evaluated to the most current version of their standards

**Sample Source:** Customer supplied one sample for testing

**Sample Description:** Steel Part.

**Disposition of Samples:** Samples returned to Customer  
**Attention: Shawn Harman, 27295 Luckino Drive, Chesterfield, MI 48047**

**Test(s) Requested:**

Specification	Specification	Specification	Specification
ASTM B117: Neutral Salt Spray			
ASTM D7091: Film Thickness			

**Process Information: Current**

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10	Stage 11
<b>Operation</b>	Immersion	Immer./Rinse	Immersion	Immer./Rinse							
<b>Chemical-1</b>	GC S5690	Water	GB 24T	Water							
<b>Parameters-1</b>											

# Physical Testing Laboratory Report



<b>Project Number:</b>	<b>188,321</b>	<b>Customer:</b>	<b>Welders &amp; Presses</b>	<b>TSM:</b>	<b>M. Roman</b>
<b>Date Received:</b>	<b>05 March 2018</b>	<b>Location:</b>	<b>Chesterfield, MI</b>	<b>RSM:</b>	<b>G. Schnabel</b>
<b>Report Date:</b>	<b>22 March 2018</b>	<b>Customer ID:</b>	<b>108347</b>	<b>P.O. Number:</b>	

## ASTM B117: Neutral Salt Spray

240 Hours										
Start Date: 09 March 2018						Completion Date: 22 March 2018				
Sample ID	Minimum (mm's)	Maximum (mm's)	Mean Arithmetic	Mean ASTM	ASTM D610/D714: Rust/Blister Field Rating	ASTM D7091: Film Thickness (mil's)				
<b>Parts</b>	MINIMUM AND MAXIMUM CREEPAGE MEASURED FROM SCRIBE. MEAN CREEPAGE CALCULATED FROM ACROSS AND PERPENDICULAR MEASUREMENTS (ASTM D1654)									
Steel Part										
<b>1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10</b>	<b>9P/8F</b>	<b>1.1-1.2</b>				

# Physical Testing Laboratory Report



<b>Project Number:</b>	<b>188,321</b>	<b>Customer:</b>	<b>Welders &amp; Presses</b>	<b>TSM:</b>	<b>M. Roman</b>
<b>Date Received:</b>	<b>05 March 2018</b>	<b>Location:</b>	<b>Chesterfield, MI</b>	<b>RSM:</b>	<b>G. Schnabel</b>
<b>Report Date:</b>	<b>22 March 2018</b>	<b>Customer ID:</b>	<b>108347</b>	<b>P.O. Number:</b>	

Field Rating Key-Blister and Rust Ratings									
Blister Density				Rust Ratings					
ASTM D714		ISO 4628-2		ASTM D610					ISO 4628-3
Rating Letter	Rating	Rating Number	Rating	Rust Grade	Percent of Surface Rusted (Ranges)	Visual Examples			Rust Grade
						Spot	General	Pinpoint	
n/a	None	0	None	10	≤ 0.01%	10	10	10	Ri 0
n/a	n/a	1	Very Few	9	>0.01% to 0.03%	9S	9G	9P	Ri 1
F	Few	2	Few	8	>0.03% to 0.1%	8S	8G	8P	
M	Medium	3	Moderate	7	>0.1% to 0.3%	7S	7G	7P	Ri 2
MD	Medium Dense	4	Considerable	6	>0.3% to 1.0%	6S	6G	6P	Ri 3
D	Dense	5	Dense	5	>1.0% to 3.0%	5S	5G	5P	
Blister Size				4	>3.0% to 10.0%	4S	4G	4P	Ri 4
ASTM D714	ISO 4628-2	Rating		3	>10.0% to 16.0%	3S	3G	3P	
Rating Number	Rating Number	10	0	2	>16.0% to 33.0%	2S	2G	2P	
		No Blistering		1	>33.0% to 50.0%	1S	1G	1P	Ri 5
		Requires Magnification		0	> 50.0%	0	0	0	
8	S2	Pinpoint	0-1 mm	<p><i>Note: Key serves only as a reference. When evaluating for blistering and rusting, samples must be compared to the photograph standards provided by each method.</i></p>					
6	S3	Small	1-2 mm						
4	S4	Medium	2-3 mm						
2	S5	Large	3-5 mm						
0		Very Large	>5mm						

# Physical Testing Laboratory Report



<b>Project Number:</b>	<b>188,321</b>	<b>Customer:</b>	<b>Welders &amp; Presses</b>	<b>TSM:</b>	<b>M. Roman</b>
<b>Date Received:</b>	<b>05 March 2018</b>	<b>Location:</b>	<b>Chesterfield, MI</b>	<b>RSM:</b>	<b>G. Schnabel</b>
<b>Report Date:</b>	<b>22 March 2018</b>	<b>Customer ID:</b>	<b>108347</b>	<b>P.O. Number:</b>	

Scribe Rating Key			
Scribe Ratings Numbers		Representative Creepage From Scribe "One-sided"	
ASTM D1654	ISO 4628-8	Millimeters	Inches
Mean Rating Number	Corrosion Grade		
10	0-None	0	0
9	1-Very Slight	Over 0 to 0.5	Over 0 to 1/64
8	2-Moderate	Over 0.5 to 1.0	Over 1/64 to 1/32
7	3-Moderate	Over 1.0 to 2.0	Over 1/32 to 1/16
6	4-Considerable	Over 2.0 to 3.0	Over 1/16 to 1/8
5	5-Severe	Over 3.0 to 5.0	Over 1/8 to 3/16
4	>5	Over 5.0 to 7.0	Over 3/16 to 1/4
3		Over 7.0 to 10.0	Over 1/4 to 3/8
2		Over 10.0 to 13.0	Over 3/8 to 1/2
1		Over 13.0 to 16.0	Over 1/2 to 5/8
0		Greater Than 16.0	Greater Than 5/8
S	Spot Creepage	<i>Isolated Creepage that Encompasses Less Than 25% of The Scribe</i>	