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Date: 30-Sep-2020

SMI/REF: 2002-373

Product: **3M INDUSTRIAL CLEANER BULK** *(received 28-Jul-2020)*

Dilution: As received

BAC 5750
SOLVENT CLEANING
Revision R (09-Mar-2017)
Process: General Cleaning (G)
Substrate: Metal

Sandwich Corrosion	Conforms
Hydrogen Embrittlement	Conforms
Stress Corrosion Cracking	Conforms

Respectfully submitted,

Patricia D. Viani, SMI Inc.

SANDWICH CORROSION TEST (SC) *(per Section 12.3.1)*

Specimens are AMS-QQ-A-250/12 Al Alloy 7075-T6 (nonclad) and AMS-QQ-A-250/13 Al Alloy Alclad 7075-T6. Use the recommended dimensions in accordance with ASTM F1110.

ALLOY	Results	
	CONTROL	**PRODUCT**
AMS-QQ-A-250/12 Aluminum 7075-T6 (nonclad)	No discoloration nor staining (RATING = 1)	**No discoloration nor staining (RATING = 1)**
AMS-QQ-A-250/13 Aluminum 7075-T6 (alclad)	No discoloration nor staining (RATING = 1)	**No discoloration nor staining (RATING = 1)**

Result Conforms

Hydrogen Embrittlement (HE) *(per ASTM F519, Type 1a2)*

Testing was performed in accordance with ASTM F519, utilizing Type 1a2 specimens, cadmium plated in accordance with MIL-STD-870, Class 1. The load was 45% of the predetermined breaking strength; specimens were surrounded by the product (wet immersion) for the entire duration of the test (150 hours), at room temperature.

#1: No failure occurred within 150 hours
#2: No failure occurred within 150 hours
#3: No failure occurred within 150 hours
#4: No failure occurred within 150 hours

Result Conforms

Stress Corrosion Cracking (SCC) *(per ASTM F 945 Method A):*

Alloy		OBSERVATION	*RESULT*
AMS 4911 *Blank Control**	# 1	No evidence of cracking.	Confirmed: AMS 4911 Titanium sheet meets acceptability and sensitivity criteria
	# 2	No evidence of cracking.	
	# 3	No evidence of cracking.	
AMS 4911 *3% Salt Control*	# 1	Cracking evident.	
	# 2	Cracking evident.	
	# 3	Cracking evident.	
AMS 4911 *CANDIDATE SOLUTION*	**# 1**	**No evidence of cracking.**	**Conforms**
	# 2	**No evidence of cracking.**	**Conforms**
	# 3	**No evidence of cracking.**	**Conforms**
AMS 4916 *Blank Control**	# 1	No evidence of cracking.	Confirmed: AMS 4916 Titanium sheet meets acceptability and sensitivity criteria
	# 2	No evidence of cracking.	
	# 3	No evidence of cracking.	
AMS 4916 *100 ppm Salt Control*	# 1	Cracking evident.	
	# 2	Cracking evident.	
	# 3	Cracking evident.	
AMS 4916 *CANDIDATE SOLUTION*	**# 1**	**No evidence of cracking.**	**Conforms**
	# 2	**No evidence of cracking.**	**Conforms**
	# 3	**No evidence of cracking.**	**Conforms**

**Specimens dipped in MEK (methyl ethyl ketone) were utilized as "blank" controls.*

Neither AMS 4911 nor AMS 4916 titanium exhibited cracking when exposed to candidate solution in accordance with ASTM F945, Method A.

Result Conforms