

## 11.0 Appendix. Single-Lap-Joint Fabrication Check List

Sample ID's: 20140464 , 20140465 , 20140466 , 20140467 , 20140468Date: 12/9/2014 Temperature: 71.4°F Humidity 37%

Testing facility and operator: \_\_\_\_\_

Adhesive, type, and form: LOCTITE ER ~~9309~~ 3 NALot ID, manufacturer's code, expiration date: PART A BATCH # JH3JAE8725 DOM 9/24/2013PART B BATCH # JH3JAE8725 DOM 9/24/2013

Method of cleaning and preparing bonding surface: \_\_\_\_\_

ACETONE WIPE, SCOTCH-BRITE, GRIT BLAST (ALUMINUM OXIDE 60),  
NITROGEN BLOW OFF, GPS DIP 2 MIN ~~AT~~ NITROGEN BLOW OFF, 212°F 2 HRS.GPS - ALDRICH #440167-100ML EX. 7/20143M SCOTCH-BRITE #04B011-05530 GRADE A VFN

Adhesive preparation, application, and bonding conditions:

MIX RATIO 100/22 A TO B BY WEIGHT  
MIXED 4 MIN. 2 MIN @ 2000 RPM 2 MIN @ 2500 RPM SPEEDMIKERTooling fixture and bonding pressure notes: ALUMINUM TOOL W/ 3 STEEL WEIGHTSAdhesive mixing to applied pressure time: 6 MINUTES

Cure cycle: \_\_\_\_\_

Oven used (model and serial number): TPS/BLUEN SN: 0909000029 AN: ACSA-326 F-ST350Conditioning procedure: SAMPLES STORED IN VACUUM CHAMBER @ RT 22 IN HgComments: SAMPLES FOR RT TESTING.ALUMINUM SUBSTRATE 2024 T3GPSGPS - ALDRICH 440167 LOT# 57B07744V EX. 7/2014

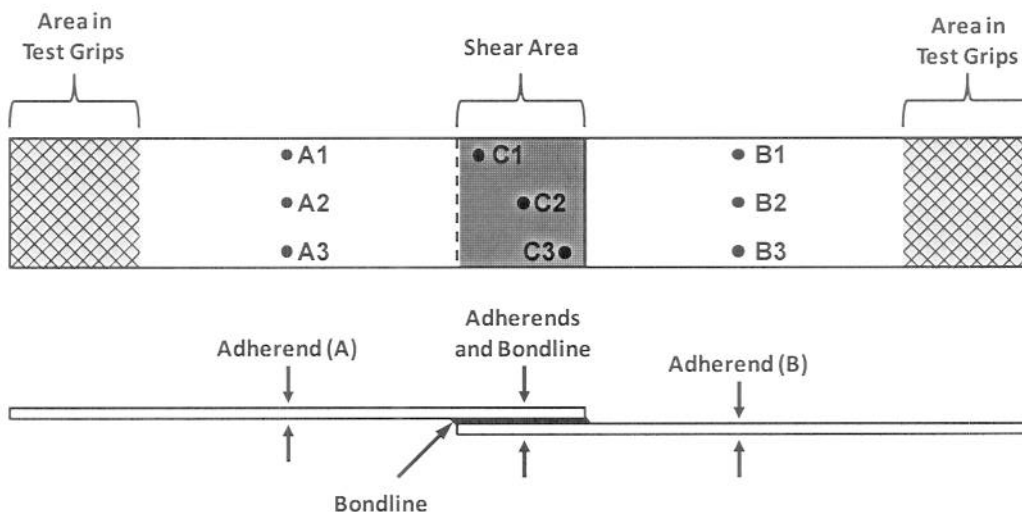
## 12.0 Appendix. Single-Lap-Joint Mechanical Testing Check List

Sample ID's: 20140464, 20140465, 20140466, 20140467, 20140468Test date: 2/17/2016 Test temperature: \_\_\_\_\_ Test humidity \_\_\_\_\_Testing facility and operator: AFTest frame model and serial number: 5500R 1123 4665 1123 L1040Test frame calibration date: 9/10/14 - 3/10/16Load cell model and serial number: SN: 028 5000LALoad cell calibration date: 9/10/14 - 3/10/16Crosshead speed: 1.3 mm/min (0.05 in/min), list other 1.27 mm/min

Nature of failure and other comments:

TEMP/HUMIDITY SN: 150034154  
CAL EX 1/7/17

## 13.0 Appendix. Bondline Thickness Measurements



Aluminum grade: 2024 Mfg. nominal thickness: \_\_\_\_\_ (mm – in)

Micrometer model, serial number, calibration date \_\_\_\_\_

SPI 14-797-5 SN 441 TMD# BHC581 ARLCAL #4012 CAL DATE 12/3/15 - 12/14/18

Measurement units (circle) – mm or in

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20140464	0630	0630	0631	.06303
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	0626	0626	0626	.0626
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	1302	1292	1284	.12927
HYGOL EA9304 - ARL - 2015 - RT - 11				C – (A + B)
GPS				Average bondline thickness
				.00637

.062815

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20140465	0632	0633	0633	.06327
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	0626	0627	0626	.06263
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	1290	1285	1285	.12867
				C – (A + B)
	Average bondline thickness			.00277

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20140466	0630	0630	0630	0630
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	0630	0630	0630	0630
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	1292	1294	1289	.12917
				C – (A + B)
	Average bondline thickness			.00317

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20140468	0629	0630	0630	.062967
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	0630	0630	0631	.06303
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	1302	1298	1294	.1298
				C – (A + B)
	Average bondline thickness			.003803

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20140467	0631	0631	0631	0631
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	0630	0630	0631	.06303
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	1299	1296	1290	.1295
				C – (A + B)
Average bondline thickness			.00337	