

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

Sample ID's: 20150453, 20150454, 20150455, 20150456, 20150457Test date: 7/14 Test temperature: 23.5°C Test humidity 55%Testing facility and operator: MSJTest frame model and serial number: Instron 1123 SN: 5054Test frame calibration date: 9/10/14Load cell model and serial number: SN: 028

Load cell calibration date: _____

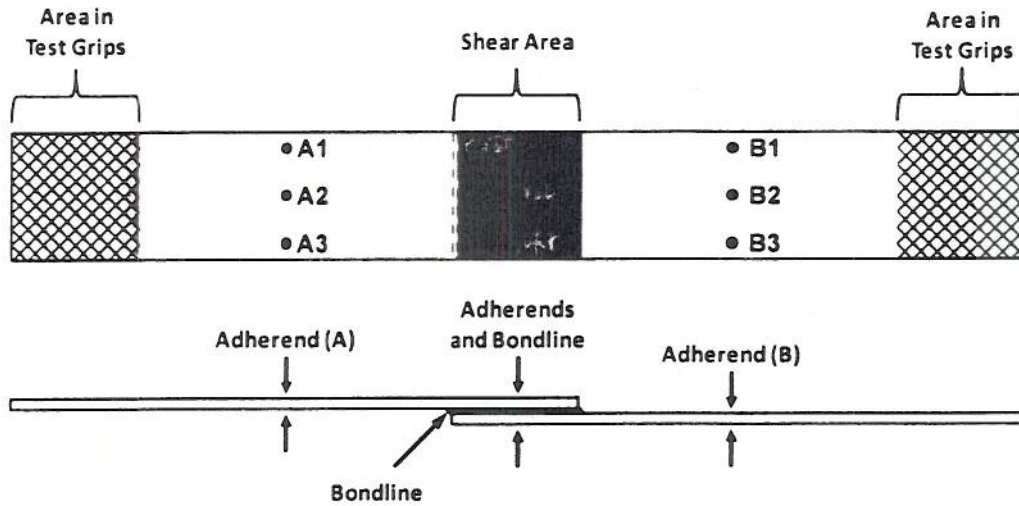
Crosshead speed: 1.3 mm/min (0.05 in/min), list other 1.27 mm/min

Nature of failure and other comments:

11.0 Appendix. Single-Lap-Joint Fabrication Check List

Sample ID's: 20150453, 20150454, 20150455, 20150456, 20150457Date: 6/25/15 @ 1630 Temperature: 74.1°F Humidity 52.9%Testing facility and operator: MSXAdhesive, type, and form: SCIGrip SC7805Lot ID, manufacturer's code, expiration date: EX805A Lot: NC14H-007EX805B Block Lot: NC14H-008 Date of Mfg: 8/27/2014Method of cleaning and preparing bonding surface: acetone wipe, 3M Scotch brite, (048011-05530, A VFN, Lot #: NMP0005-4304), Grit blast (60 grit Al₂O₃), N₂ blow offSurTec 650: QC#501094 (9-30-15)5% + titrated to pH ≈ 3.5, dip 2 mins, 30 sec DI water rinse, nitrogen blow offAdhesive preparation, application, and bonding conditions: ^{mix 30 mins}Two-component, 490 mL cartridge 10:1 mix ratio dispensed using mixPAC type DP 400-100 No. 2008-07153Tooling fixture and bonding pressure notes: aluminum fixture w/ 3 steel weightsAdhesive mixing to applied pressure time: < 5 minsCure cycle: 91.5 hrs @ RTOven used (model and serial number): Therco S/N: 699020978 Model: 130 DConditioning procedure: placed in test tube of DI water in oven @ 63°C for 14 daysComments: 1010 mild steelSurTec 650hot/wet

13.0 Appendix. Bondline Thickness Measurements



Aluminum grade: _____ Mfg. nominal thickness: _____ (mm – in)

Micrometer model, serial number, calibration date _____

Measurement units (circle) – mm or in

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20150453	.0620	.0619	.0622	.06203
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	.0617	.0621	.0620	.06193
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	.1523	.1519	.1516	.15193
				C – (A + B)
Average bondline thickness			.02797	

86190-

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20150454	.0619	.0619	.0619	.0619
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	.0617	.0616	.0612	.0615
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	.1528	.1530	.1526	.1528
				C - (A + B)
Average bondline thickness			.02940	

.0617

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20150455	.0620	.0619	.0622	.06203
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	.0611	.0613	.0611	.06117
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	.1521	.1523	.1525	.1523
				C – (A + B)
Average bondline thickness			.02910	

.0616

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20150456	.0621	.0620	.0619	.0620
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	.0616	.0615	.0611	.0614
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	.1525	.1522	.1516	.1521
				C - (A + B)
	Average bondline thickness			.02870

.0617

Sample ID	Adherend (A1)	Adherend (A2)	Adherend (A3)	Average (A)
20150457	.0620	.0620	.0621	.06203
Comments	Adherend (B1)	Adherend (B2)	Adherend (B3)	Average (B)
	.0617	.0621	.0621	.06197
	Adherends and Bondline (C1)	Adherends and Bondline (C2)	Adherends and Bondline (C3)	Average (C)
	.1531	.1524	.1508	.1521
				C - (A + B)
	Average bondline thickness			.02810

.0620