

Report No: CAM-RP-2013-020 Rev N/C
Report Date: April 16, 2019

NIAR Impact Testing Investigation Report For Hexcel 8552 IM7 Unidirectional Prepreg 190 gsm & 35%RC

NCAMP Test Report Number: CAM-RP-2013-020 Rev N/C

Report Date: April 16, 2019

Testing Facility:

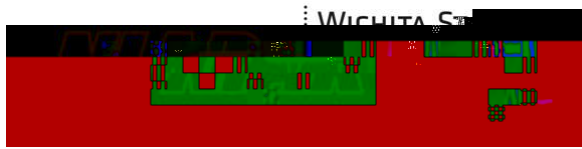
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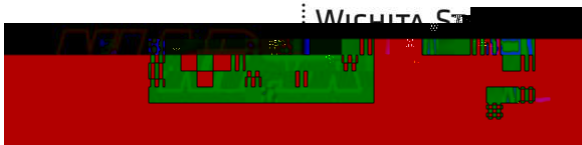
Michelle Man, Katherine Carney



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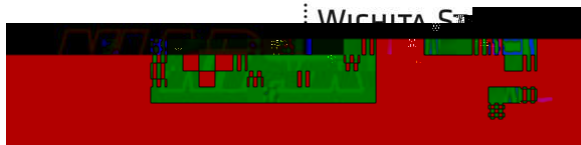


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1. Scope

The purpose of this report is to provide a supplementary to the Hexcel 8552 IM7

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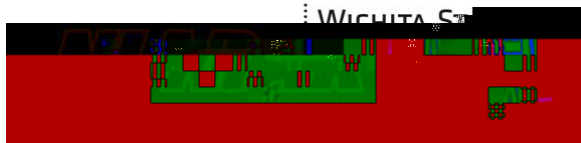
3. Analysis of setup

The impact setup was erroneous due to the use of a shorter extender where the tip of the impactor tup barely reached the top of the support base when the entire crosshead assembly rested on the brakes. Figure 1 illustrates the incorrect setup used where some of the impact energy was absorbed by the breaks during impact and resulted in a smaller damage area.

A correct impact setup, illustrated in Figure 2, would require utilization of a longer extender that would allow the impactor tup to go past the top of the support base for a complete energy transfer to the coupon before the crosshead assembly reaches the brakes.

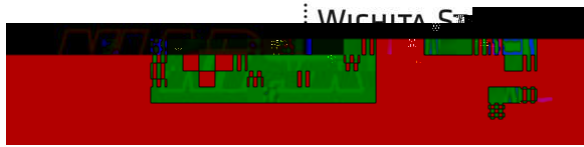


Figure 1 – **Incorrect** Impact Setup for 2008 Qualification/Equivalency program



SPECIMEN.ID.:	HFIKA111A	
SPECIMEN.THICKNESS.:	0.177 in	
IMPACTOR.DIAMETER.:	0.625 in	
DROP.HEIGHT.:	19.743 in	
DROP.WEIGHT.:	13.45 lbf	
MAXIMUM.FORCE.:	2236.00 lbf	
TARGET.IMPACT.VELOCITY.:	7410.14 in/min	123.502
MEASURED.IMPACT.VELOCITY.:	7387.2 in/min	123.175
TARGET.IMPACT.ENERGY.:	350 in-lbf	
MEASURED.IMPACT.ENERGY.:	264.04 in-lbf	
TOTAL.:		

Figure 3



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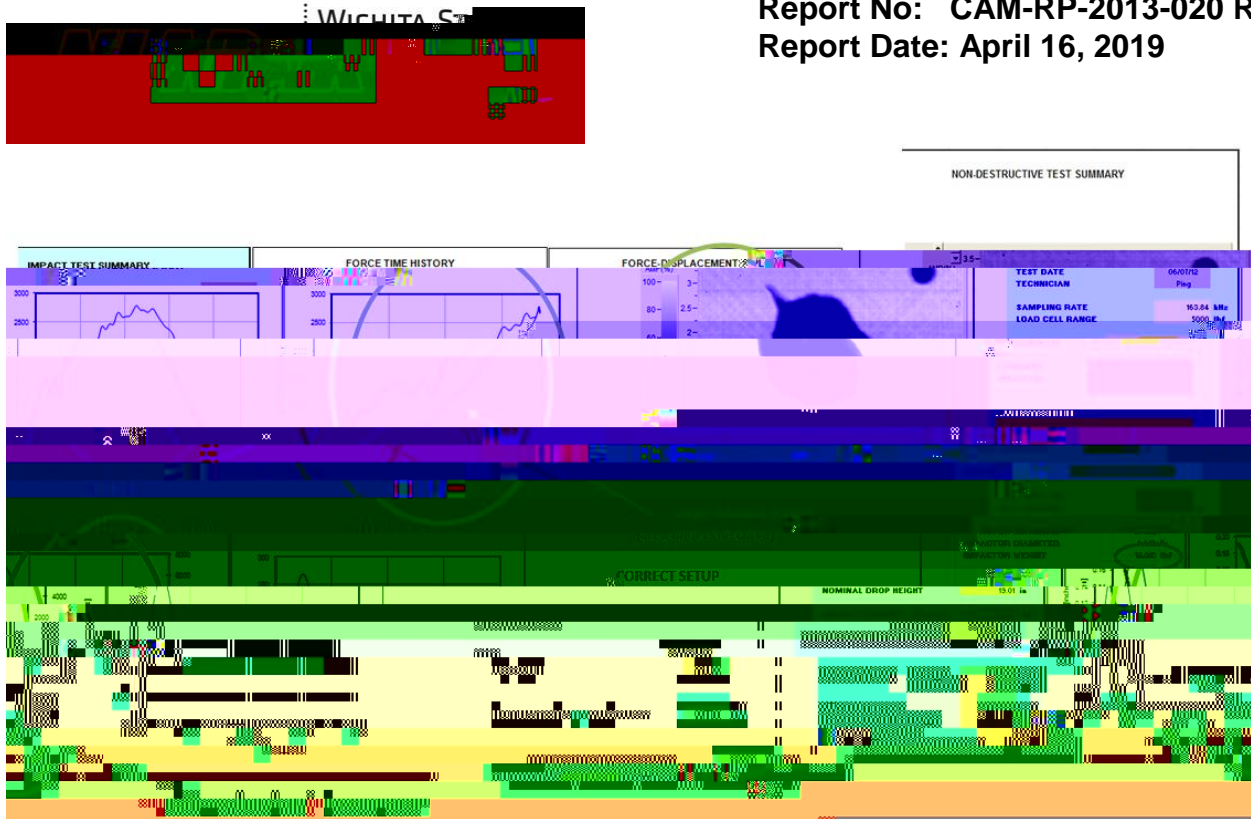


Figure 6 - Plots and C-Scan for 2013 Equivalency sample

