ARCOPLAST
1873 Williamstown Drive
St. Peters, MO 63376

Attention: Ghislain Beauregard

REPORT OF MECHANICAL TEST

SAMPLE ID:

#1 Ceiling Construction- 3 5/8" + 3/8" Face Side
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 54" Long
Panel Thickness 3/8"- Metal Stud Face Flange 1 1/2"
Adhesive Tape 4959-1"x 9" alternated every 9" on each side and 1" x 6" on each end centered
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side with (2) 6" at each end of the sample, Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: 3 Point Load Test (48" Support Span, Loaded with a 6" wide I Beam)

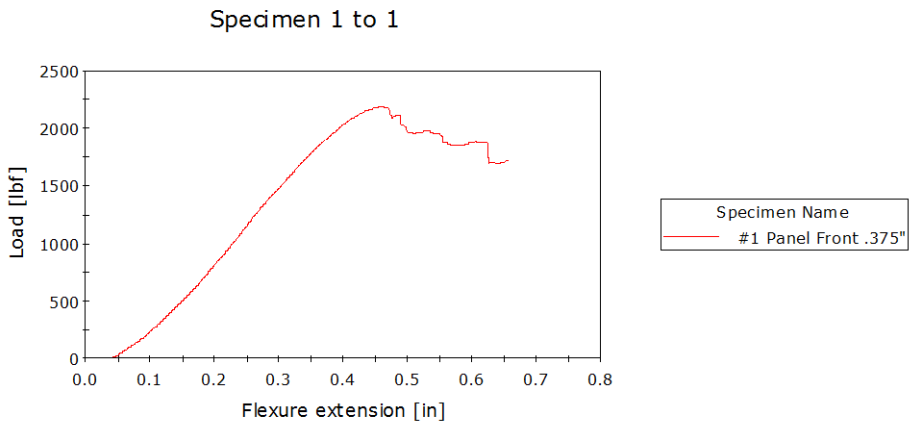
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill s

RESULTS:

= 2.25 psi
= 15.513 kPa
= 62.3 in.wg

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
1	2148	0.458	Adhesive (see figure 3)



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REPORT OF MECHANICAL TEST

SAMPLE ID:

#2 Ceiling Construction- 3 5/8" + 1/2" Face Side
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 54" Long
Panel Thickness 1/2"- Metal Stud Face Flange 1 1/2"
Adhesive Tape 4959-1"x 9" alternated every 9" on each side and 1" x 6" on each end centered
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side with (2) 6" at each end of the sample, Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: 3 Point Load Test (48" Support Span, Loaded with a 6" wide I Beam)

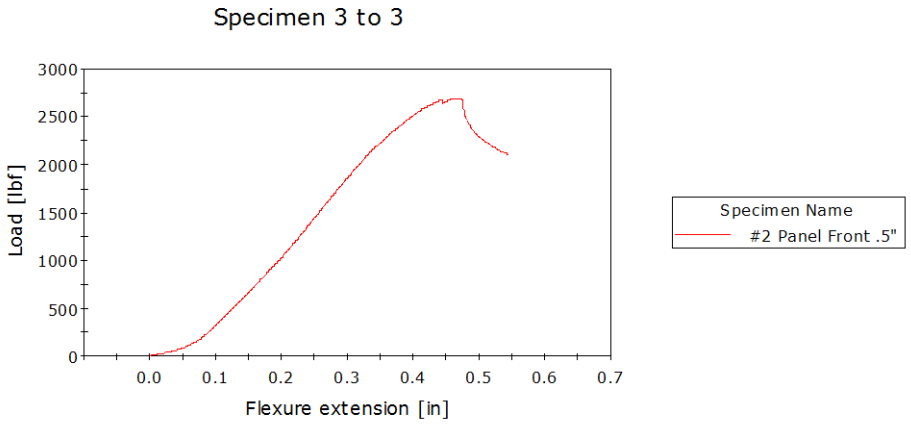
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill softw

RESULTS:

= 2.80 psi
= 19.3 kPa
= 77.5 in.wg

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
2	2687	0.466	Metal Stud (see figure 4)



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REPORT OF MECHANICAL TEST

Figure 1: Sample #1,2 Test Set Up

Figure 2: Sample #1,2 Test Set Up

Figure 3: Sample #1 Failure

Figure 4: Sample #2 Failure

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SAMPLE ID:

#3 Wall Construction- 3 5/8" + 3/8" Both Sides
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 54" Long
Panel Thickness 3/8" on face and back side- Metal Stud Face Flange 1 1/2"
Adhesive Tape 4959-1"x 9" alternated every 9" on each side and 1" x 6" on each end centered
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side with (2) 6" at each end of the sample, Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: 3 Point Load Test (48" Support Span, Loaded with a 6" wide I Beam)

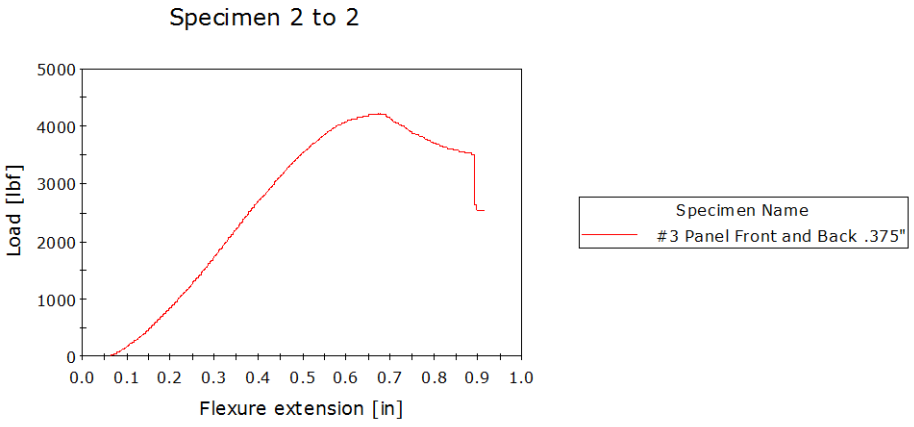
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill softw

RESULTS:

= 4.4 psi
= 30.3 kPa
= 121.9 in.wg

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
3	4217	0.674	Panel (see figure 7)



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REPORT OF MECHANICAL TEST

SAMPLE ID:

#4 Wall Construction- 3 5/8" + 1/2" Both Sides
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 54" Long
Panel Thickness 1/2" on face and back side- Metal Stud Face Flange 1 1/2"
Adhesive Tape 4959-1"x 9" alternated every 9" on each side and 1" x 6" on each end centered
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side with (2) 6" at each end of the sample, Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: 3 Point Load Test (48" Support Span, Loaded with a 6" wide I Beam)

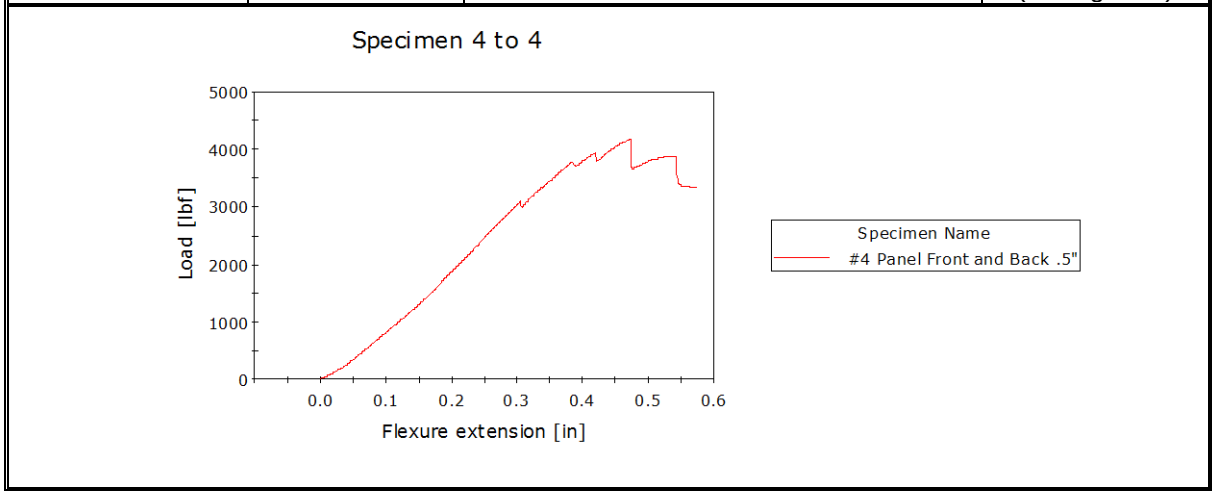
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill softwa

= 4.34 psi
= 29.9 kPa
= 120.25 in.wg

RESULTS:

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
4	4167	0.472	Panel (see figure 8)



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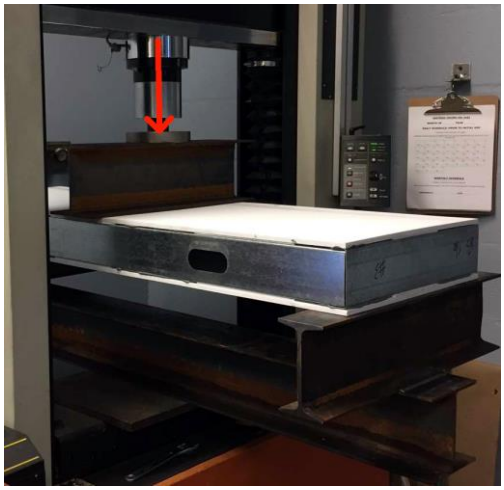

Figure 5: Sample #3,4 Test Set Up

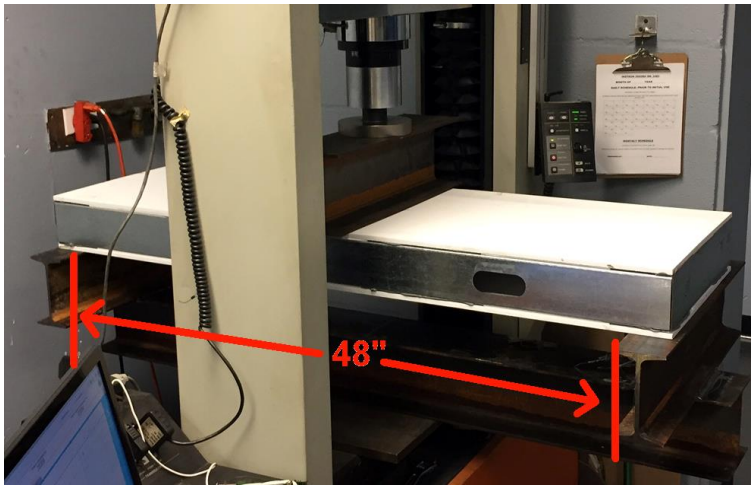

Figure 6: Sample #3,4 Test Set Up

Figure 7: Sample #3 Failure

Figure 8: Sample #4 Failure

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SAMPLE ID:

#5 Ceiling Construction- 3 5/8" + 3/8" Face Side
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 36" Long
Panel Thickness 3/8"- Metal Stud Face Flange 1 1/2"
Two Sections of Adhesive Tape 4959-1"x 9" alternated every 9" on each side
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Two Sections of Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side
Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: Load Test Force Panel off Metal Studs (36" Length of Panel)

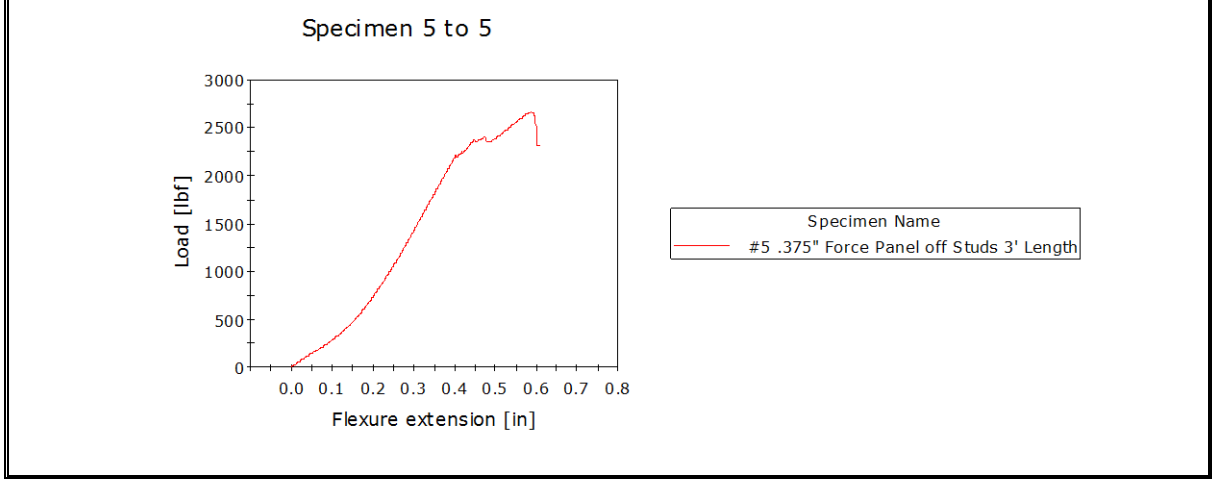
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill s

= 3.64 psi
= 25.1 kPa
= 100.8 in.wg

RESULTS:

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
5	2330	0.419	Adhesive (see figure 10)



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REPORT OF MECHANICAL TEST

SAMPLE ID:

#6 Ceiling Construction- 3 5/8" + 1/2" Face Side
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
Sample Dimension-17 3/4" wide x 36" Long
Panel Thickness 1/2"- Metal Stud Face Flange 1 1/2"
Two Sections of Adhesive Tape 4959-1"x 9" alternated every 9" on each side
Prepared with IPA Wash, 94 Primer on both panel and steel stud
Two Sections of Liquid Acrylic 2 part adhesive 1/2" bead 9" alternated every 9" on each side
Prepared with IPA Wash, Acrylic Primer on panel only

SUBJECT: Load Test Force Panel off Metal Studs (36" Length of Panel)

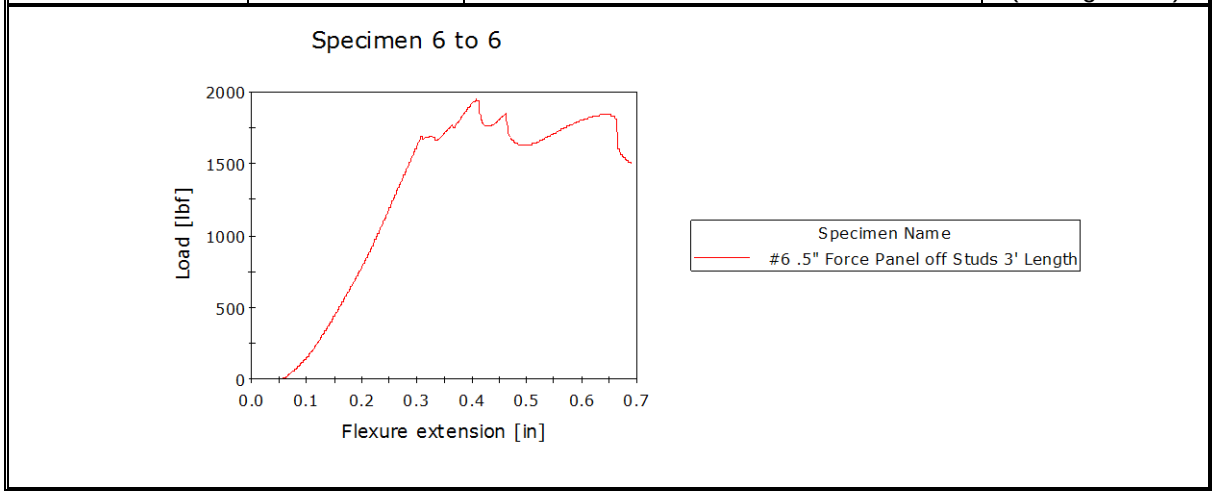
METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill s

= 3.05 psi
= 20.9 kPa
= 84.3 in.wg

RESULTS:

Sample #	Max Load (lbf)	Compressive Extension @ Max Load (in.)	Failure Mode
6	1946	0.408	Adhesive (see figure 10)



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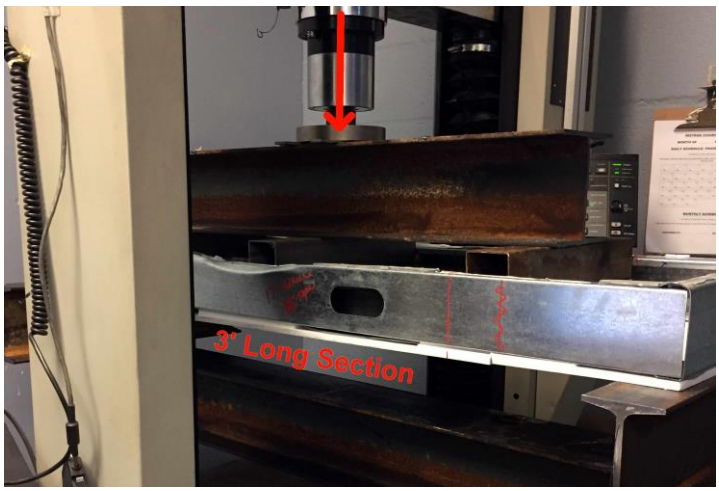

Figure 9: Sample #3,4 Test Set Up

Figure 10: Sample #5,6 Typical Failure

Karl Schmitz, Director
Materials Testing

KS/sen