

ARCOPLAST
 1873 Williamstown Drive
 St. Peters, MO 63376

November 2, 2016
 Lab No. 16P-5308
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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

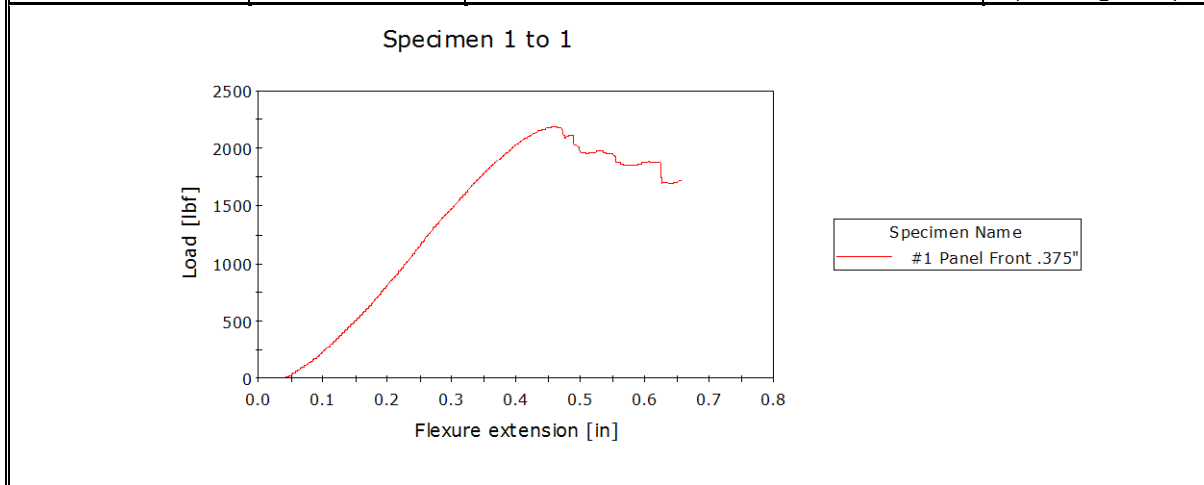
SUBJECT: 3 Point Load Test (48" Support Span, Loaded with a 6" wide I Beam)

METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill software

RESULTS:

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



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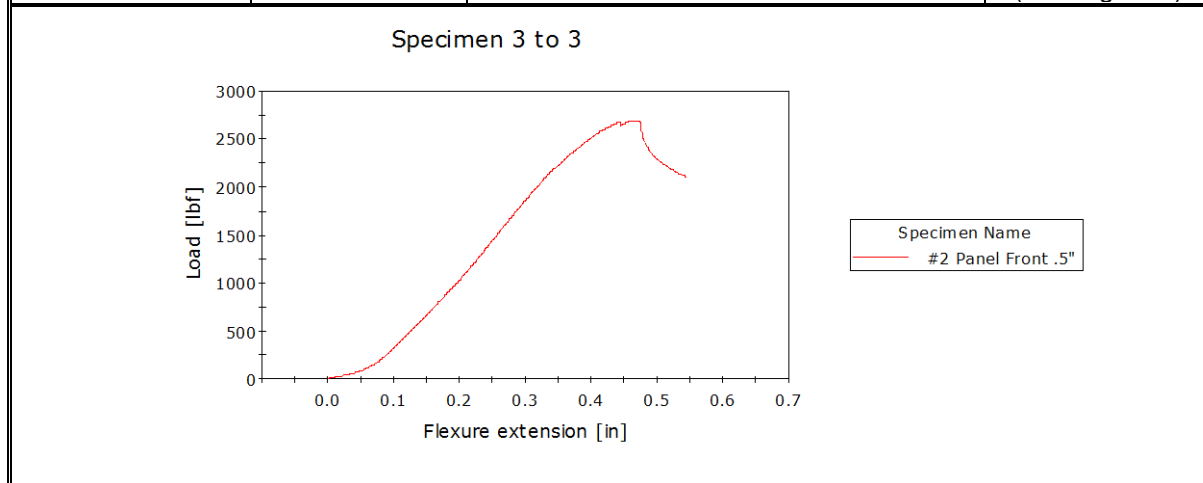
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SAMPLE ID:

#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 software
RESULTS:

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



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Figure 1: Sample #1,2 Test Set Up

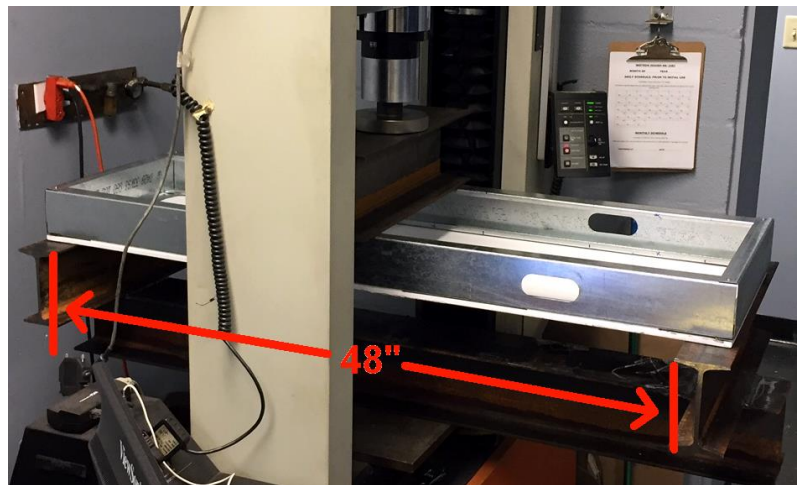


Figure 2: Sample #1,2 Test Set Up



Figure 3: Sample #1 Failure



Figure 4: Sample #2 Failure

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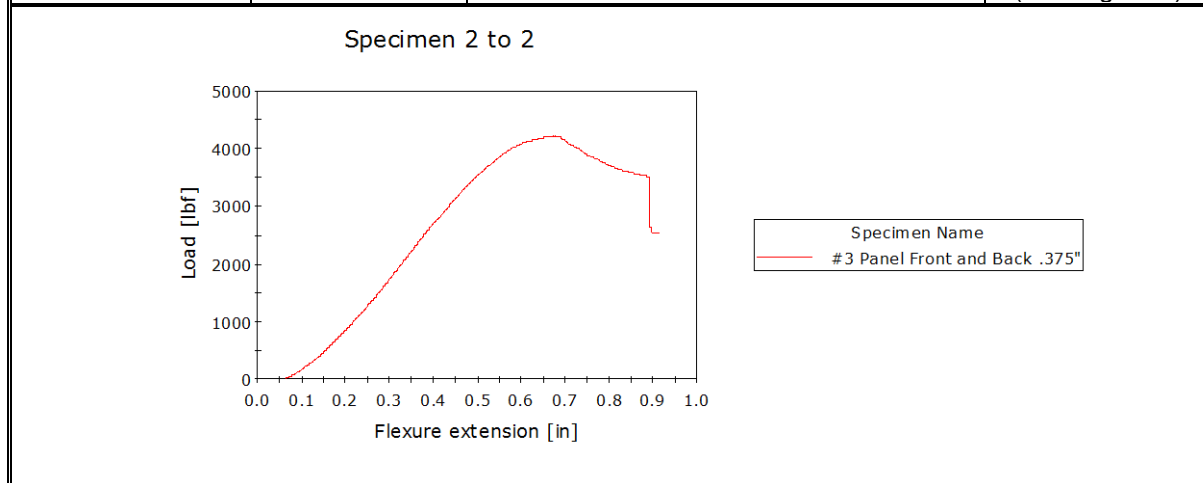
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SAMPLE ID:

#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 software
RESULTS:

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



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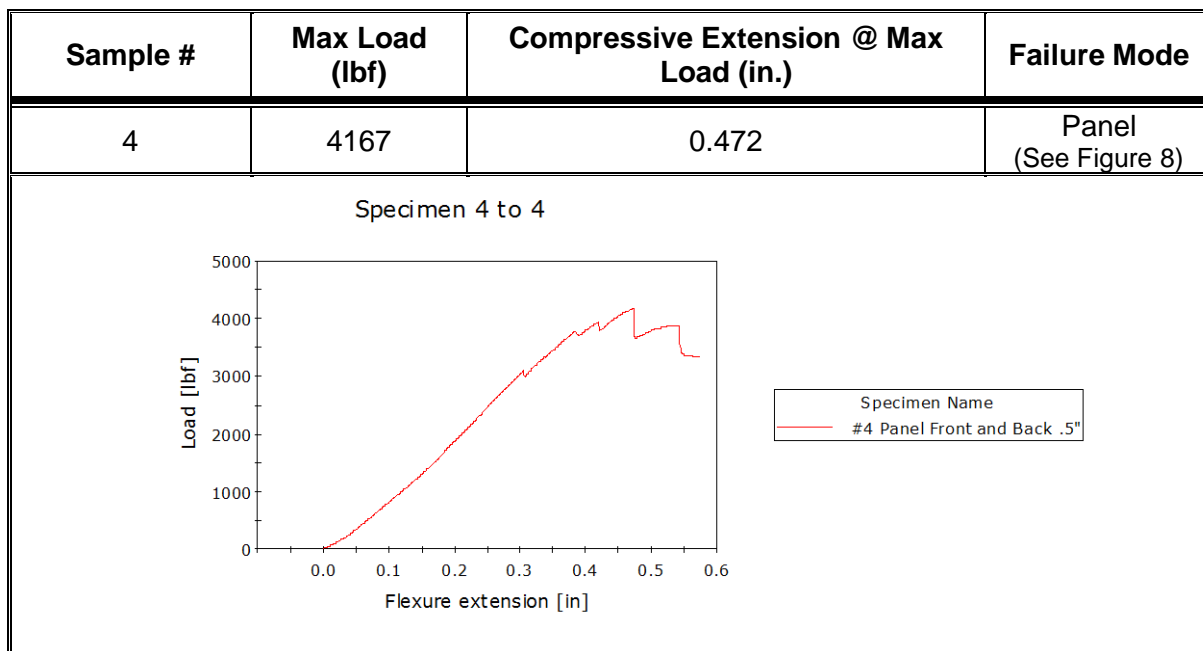
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SAMPLE ID:

#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 software
RESULTS:



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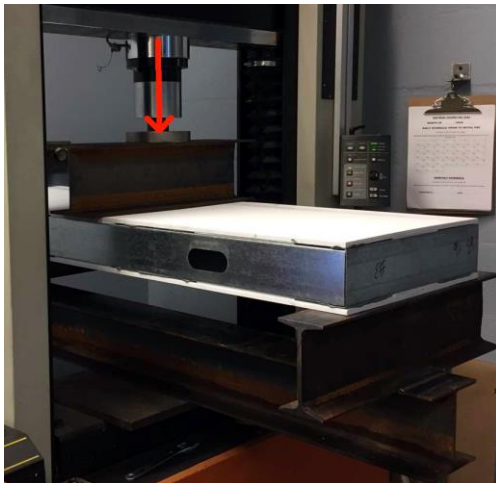


Figure 5: Sample #3,4 Test Set Up

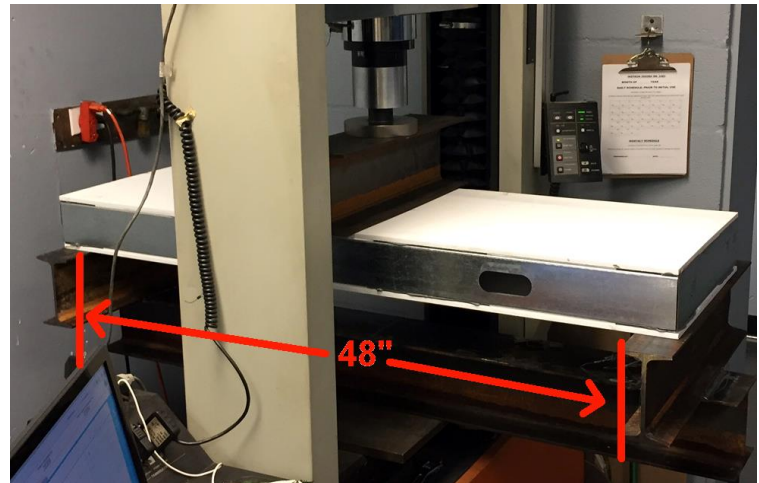


Figure 6: Sample #3,4 Test Set Up



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

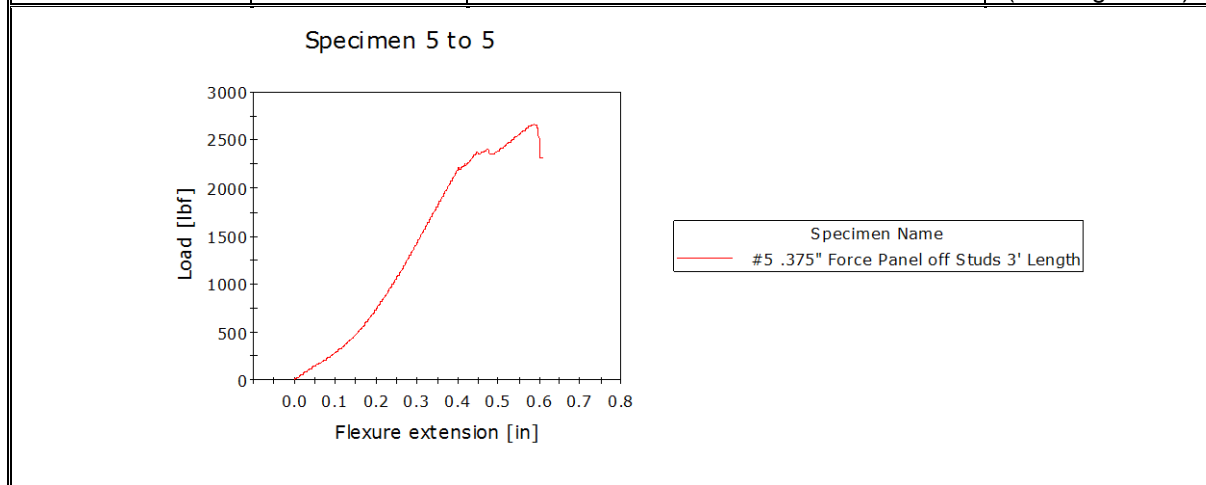
SUBJECT: Load Test Force Panel off Metal Studs (36" Length of Panel)

METHOD: Per Client's Instructions

INSTRUMENT: Instron 5500R with Bluehill software

RESULTS:

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



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SAMPLE ID:

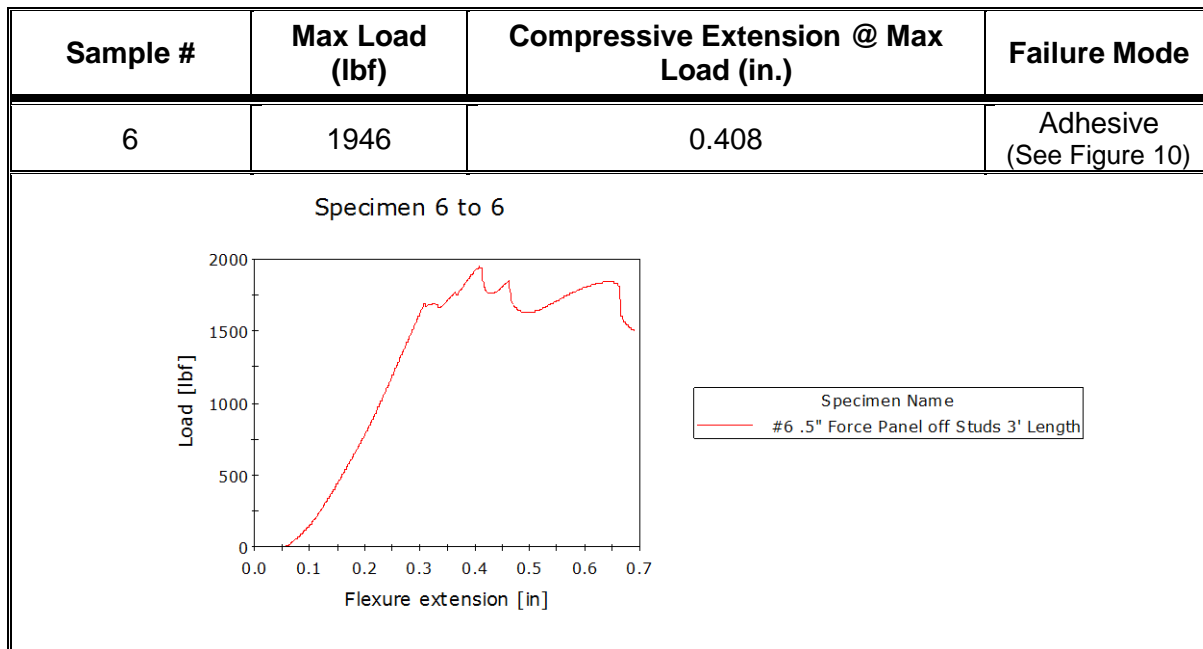
#6 Ceiling Construction- 3 5/8" + 1/2" Face Side
Arcoplast Engineered Polymer panel bonded to 3 5/8" steel stud 16" c/c
 Sample Dimension-17 3/4" wide x 36" Long
 Panel Thickness 1/2"- Metal Stud Face Flange 1 1/2"
 Two Sections of Adhesive Tape 4959-1"x 9" alternated every 9" on each side
 Prepared 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 software

RESULTS:



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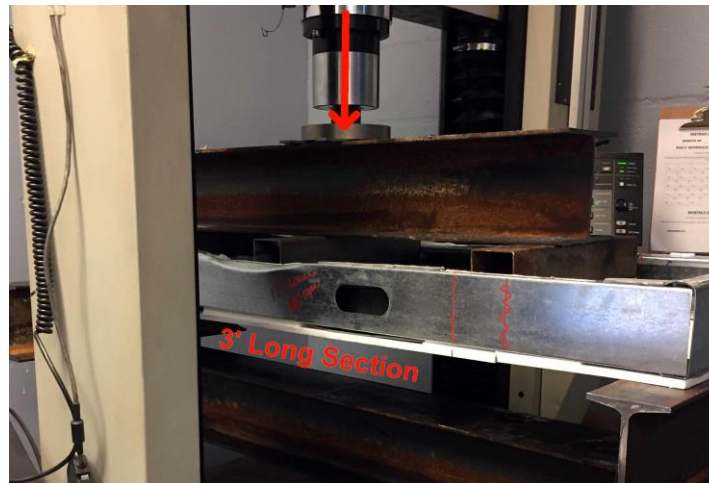


Figure 9: Sample #3,4 Test Set Up



Figure 10: Sample #5,6 Typical Failure

Karl Schmitz, Director
Materials Testing

KS/sen