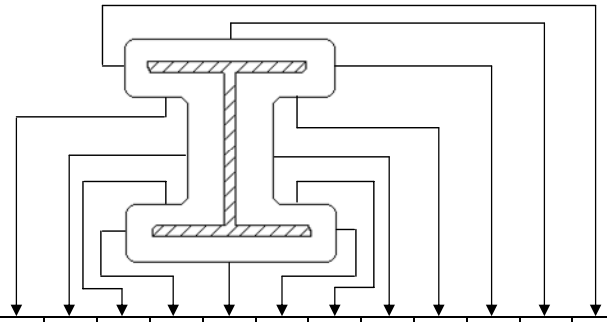
SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

S.W.COLE ENGINEERING, INC.

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 1/18/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Mid Suite Level	Line A4	W16x26	1/18/13	0.938	1.188	1.000	1.125	0.500	1.125	1.000	0.688	2.000	0.750				**1.022**	**0.734**	**0.958**
					1.500	1.125	1.188	0.563	1.375	0.875	0.625	1.375	0.750						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Mid Suite Level	Line AC.3	W12x16	1/18/13	1.063	1.250	1.375	0.688	0.875	1.313	1.063	0.750	1.313	1.125				**1.161**	**0.970**	**1.118**
					1.375	1.375	1.063	1.006	1.250	0.938	1.063	1.250	1.250						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
1/21/13	Mid Suite	Column	A5 & AE	1.167	48.000	19	15
1/21/13	Mid Suite	Column	A3 & AC	0.568	48.000	13	15
1/25/13	Mid Suite	Col. Retest	A3 & AC	1.016	48.000	18	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
3/12/13	Mid Suite	Column	A5 & AE	Cohesion	64	1111	150
3/12/13	Mid Suite	Beam	A1-A2, AB.3	Cohesion	59	1024	150

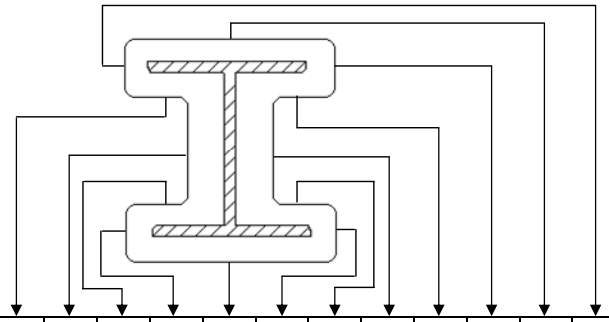
Comments: Island Fireproofing's design allows for half flange thickness. Amended report to include adhesion/cohesion testing.

Sampled by: V.Terrell
Reviewed by: K. Gimpel

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 1/18/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Mid Suite Level	Line A4	W16x26	1/18/13	0.938	1.188	1.000	1.125	0.500	1.125	1.000	0.688	2.000	0.750				**1.022**	**0.734**	**0.958**
					1.500	1.125	1.188	0.563	1.375	0.875	0.625	1.375	0.750						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Mid Suite Level	Line AC.3	W12x16	1/18/13	1.063	1.250	1.375	0.688	0.875	1.313	1.063	0.750	1.313	1.125				**1.161**	**0.970**	**1.118**
					1.375	1.375	1.063	1.006	1.250	0.938	1.063	1.250	1.250						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
1/21/13	Mid Suite	Column	A5 & AE	1.167	48.000	19	15
1/21/13	Mid Suite	Column	A3 & AC	0.568	48.000	13	15
1/25/13	Mid Suite	Col. Retest	A3 & AC	1.016	48.000	18	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

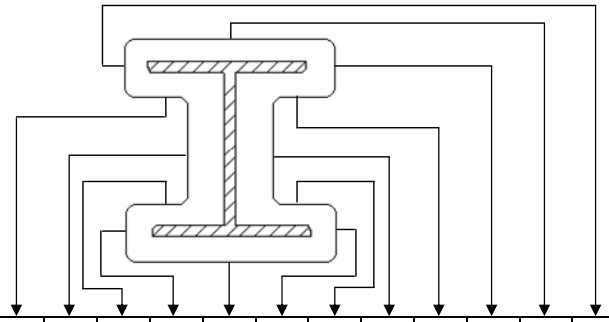
Comments: Island Fireproofing's design allows for half flange thickness. Adhesion testing to be performed when fireproofing cures as scheduled by Cianbro. Amended report to include density retest at column A3/AC.

Sampled by: V.Terrell
Reviewed by: K. Gimpel

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 1/31/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Upper Level	Col. A4 & AD	W12x53	1/31/13	1.188	1.438	1.313	1.313	0.688	1.313	0.625	1.188	1.375	1.438	0.563	1.188	0.625	**1.332**	**0.641**	**1.102**
					1.500	1.500	1.500	0.813	1.313	0.563	1.188	1.250	1.500	0.625	1.250	0.625			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Upper Level	Beam A4 to A3	W16x36	1/31/13	0.875	2.000	1.000	0.500	0.313	0.750	0.625	0.750	0.750	1.500				**0.879**	**0.469**	**0.788**
					1.250	1.000	0.563	0.313	0.875	0.625	0.875	0.750	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Roof Level	Beam AC.3, A4/A5	W12x16	1/31/13	1.063	1.313	1.063	1.125	0.500	0.875	0.438	0.938	1.125	1.250				**1.112**	**0.484**	**0.972**
					1.375	1.188	1.125	0.500	1.000	0.500	0.875	1.063	1.313						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
1/31/13	Upper	Column	A4 & AD	1.198	48.000	18	15
1/31/13	Upper	Column	A3 & AC	0.828	48.000	17	15
1/31/13	Roof	Column	A4 & AA	0.807	48.000	16	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

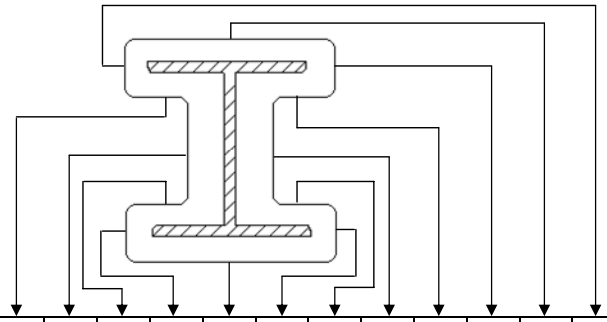
Comments: Island Fireproofing's design allows for half flange thickness. Adhesion testing to be performed when fireproofing cures as scheduled by Cianbro. Two faces on upper level beam between A4 and A3 had insufficient individual thicknesses.

Sampled by: V.Terrell
Reviewed by: K. Gimpel

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

S.W.COLE ENGINEERING, INC.

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 1/31/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Upper Level	Col. A4 & AD	W12x53	1/31/13	1.188	1.438	1.313	1.313	0.688	1.313	0.625	1.188	1.375	1.438	0.563	1.188	0.625	**1.332**	**0.641**	**1.102**
					1.500	1.500	1.500	0.813	1.313	0.563	1.188	1.250	1.500	0.625	1.250	0.625			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Upper Level	Beam A4 to A3	W16x36	1/31/13	0.875	2.000	1.000	0.500	0.313	0.750	0.625	0.750	0.750	1.500				**0.879**	**0.469**	**0.788**
					1.250	1.000	0.563	0.313	0.875	0.625	0.875	0.750	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Roof Level	Beam AC.3, A4/A5	W12x16	1/31/13	1.063	1.313	1.063	1.125	0.500	0.875	0.438	0.938	1.125	1.250				**1.112**	**0.484**	**0.972**
					1.375	1.188	1.125	0.500	1.000	0.500	0.875	1.063	1.313						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Upper Level Re-test	Beam A4 to A3	W16X36	3/12/13	0.875	2.000	1.000	0.813	1.000	0.750	0.625	0.750	0.750	1.500				**0.929**	**0.719**	**0.882**
					1.250	1.000	0.938	0.625	0.875	0.625	0.875	0.750	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
1/31/13	Upper	Column	A4 & AD	1.198	48.000	18	15
1/31/13	Upper	Column	A3 & AC	0.828	48.000	17	15
1/31/13	Roof	Column	A4 & AA	0.807	48.000	16	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
3/12/13	Upper	Column	A4 & AD	Cohesion	34	587	150
3/12/13	Upper	Beam	A1-A3, AB.3	Cohesion	70	1215	150
3/12/13	Roof	Beam	A3-A4, AC	Cohesion	37	642	150

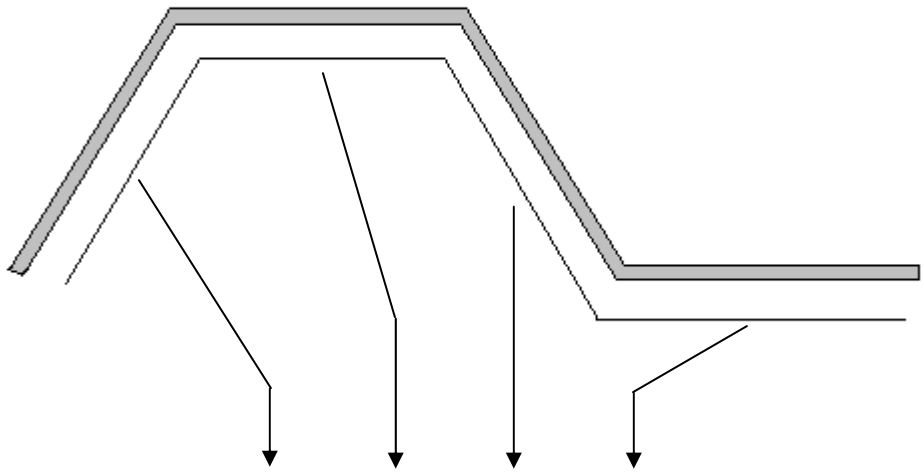
Comments: Island Fireproofing's design allows for half flange thickness. Amended report to include adhesion/cohesion testing.

Sampled by: V.Terrell
Reviewed by: K. Gimpel

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

REPORT OF FIRE PROOFING THICKNESS OF MATERIAL ON STEEL DECKING – ASTM E605

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center / Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 3-8-13



Location	Required Thickness	1	2	3	4	Average Thickness
Upper Level	0.875	1.000	1.000	1.062	1.125	1.047
Roof Level	0.875	0.750	1.000	0.875	1.125	0.938

Per ASTM E-605 8.1.2.1 for the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design

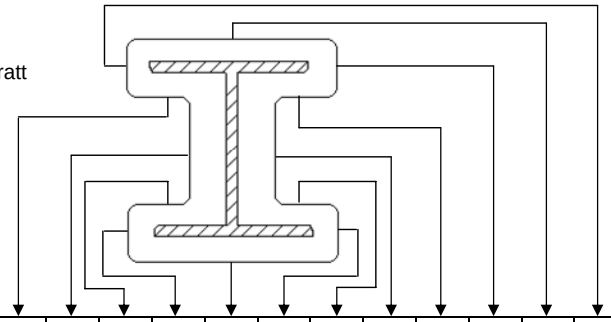
Comments:

Sampled by: V. Terrell
Reviewed by: K. Gimpel

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 10/23/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Event Level Framing	Beam CC-line C1 to C2.3	W18x55	10/23/13	0.688	0.688	0.813	0.875	0.375	0.500	0.375	0.750	0.938	0.875				**0.732**	**0.484**	**0.677**
					0.563	1.125	0.750	0.813	0.563	0.375	0.563	0.750	0.688						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam C3-line CB to CC	W14x22	10/23/13	0.938	1.188	0.875	0.813	0.625	1.000	0.438	1.438	1.000	1.313				**1.022**	**0.516**	**0.910**
					1.188	1.125	0.750	0.563	1.188	0.438	0.938	0.750	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level	Column at CC/C3	W12x53	10/23/13	1.188	1.250	1.000	1.688	0.625	1.250	1.000	1.375	1.375	1.375	1.000	1.063	0.750	**1.285**	**0.844**	**1.138**
					1.188	1.313	1.125	0.875	1.313	1.000	1.438	1.438	1.563	0.813	1.188	0.688			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam CB-line C4 to C5	W18x35	10/23/13	0.875	1.000	0.750	0.938	0.813	1.000	0.500	0.813	0.750	0.563				**0.866**	**0.578**	**0.802**
					1.313	0.625	0.750	0.563	1.125	0.438	0.750	0.938	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C5-line CA to CB	W18x50	10/23/13	0.750	1.375	0.750	0.563	0.438	0.813	0.625	1.188	0.813	1.250				**0.866**	**0.547**	**0.795**
					1.438	0.750	0.563	0.438	1.063	0.688	1.313	0.875	1.188						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level	Column at CB/C5	W10x49	10/23/13	1.125	1.063	1.188	1.188	0.563	1.000	0.750	1.250	1.188	1.188	1.000	1.313	0.563	**1.203**	**0.703**	**1.036**
					1.188	1.188	1.000	0.563	1.000	0.750	1.750	1.375	1.438	0.875	1.438	0.563			

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
10/23/13	Mechanical	W12x65	Column CA/C2	0.911	48.000	21	15
10/23/13	Event	W12x53	Column CC/C4	1.167	48.000	22	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
11/21/13	Mechanical	W12x65	Column CA/C2	Cohesion	50+	868+	150
11/21/13	Event	W12x53	Column CC/C4	Cohesion	35	601	150

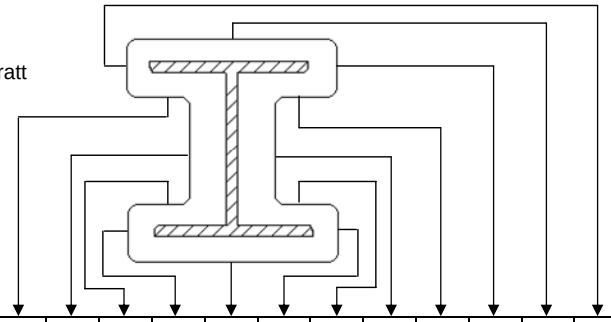
Comments: Island Fireproofing's design allows for half flange thickness. **Amended report in include adhesion/cohesion test results.**

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Event Level Framing	Beam CC-line C1 to C2.3	W18x55	10/23/13	0.688	0.688	0.813	0.875	0.375	0.500	0.375	0.750	0.938	0.875				**0.732**	**0.484**	**0.677**
					0.563	1.125	0.750	0.813	0.563	0.375	0.563	0.750	0.688						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam C3-line CB to CC	W14x22	10/23/13	0.938	1.188	0.875	0.813	0.625	1.000	0.438	1.438	1.000	1.313				**1.022**	**0.516**	**0.910**
					1.188	1.125	0.750	0.563	1.188	0.438	0.938	0.750	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level	Column at CC/C3	W12x53	10/23/13	1.188	1.250	1.000	1.688	0.625	1.250	1.000	1.375	1.375	1.375	1.000	1.063	0.750	**1.285**	**0.844**	**1.138**
					1.188	1.313	1.125	0.875	1.313	1.000	1.438	1.438	1.563	0.813	1.188	0.688			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam CB-line C4 to C5	W18x35	10/23/13	0.875	1.000	0.750	0.938	0.813	1.000	0.500	0.813	0.750	0.563				**0.866**	**0.578**	**0.802**
					1.313	0.625	0.750	0.563	1.125	0.438	0.750	0.938	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C5-line CA to CB	W18x50	10/23/13	0.750	1.375	0.750	0.563	0.438	0.813	0.625	1.188	0.813	1.250				**0.866**	**0.547**	**0.795**
					1.438	0.750	0.563	0.438	1.063	0.688	1.313	0.875	1.188						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level	Column at CB/C5	W10x49	10/23/13	1.125	1.063	1.188	1.188	0.563	1.000	0.750	1.250	1.188	1.188	1.000	1.313	0.563	**1.203**	**0.703**	**1.036**
					1.188	1.188	1.000	0.563	1.000	0.750	1.750	1.375	1.438	0.875	1.438	0.563			

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
10/23/13	Mechanical	W12x65	Column CA/C2	0.911	48.000	21	15
10/23/13	Event	W12x53	Column CC/C4	1.167	48.000	22	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
	Mechanical	W12x65	Column CA/C2				150
	Event	W12x53	Column CC/C4				150

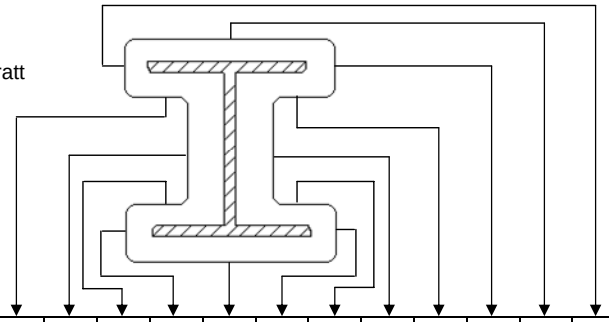
Comments: Island Fireproofing's design allows for half flange thickness. An amended report will be distributed when fireproofing cures enough to perform adhesion testing as scheduled by Cianbro.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Event Level	Column CE/C4	W12x53	10/23/13	1.188	1.063	1.313	1.188	1.000	1.000	1.000	1.250	1.125	1.125	1.250	1.313	0.563	**1.188**	**0.938**	**1.104**
					1.063	1.438	1.125	1.000	1.063	0.813	1.563	1.125	1.188	1.313	1.188	0.563			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam at C4 (-5') CC to CE	W18x35	10/23/13	0.875	0.813	0.813	0.938	0.688	1.000	0.500	1.000	1.250	1.125				**0.978**	**0.609**	**0.896**
					1.125	0.813	1.000	0.813	1.000	0.438	0.813	1.313	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C2.8-line	W18x35	10/23/13	0.875	1.125	0.688	1.000	0.438	0.625	0.375	0.813	0.750	1.125				**0.879**	**0.609**	**0.819**
					0.688	0.875	1.188	1.125	1.063	0.500	0.875	0.750	0.813						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C2.3-line	W18x35	10/23/13	0.875	0.875	0.750	0.875	0.688	0.875	0.875	0.875	1.313	0.813				**0.929**	**0.750**	**0.889**
					1.000	0.688	0.750	0.563	1.000	0.875	1.125	1.375	1.188						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam CC-line C1 to C2.3	W24x68	10/23/13	0.688	1.000	1.063	0.813	0.875	0.688	0.688	0.813	1.438	1.000				**0.879**	**0.781**	**0.858**
					1.063	0.938	0.688	0.625	1.000	1.000	0.875	1.000	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C3-line CB to CC	W16x26	10/23/13	0.938	0.875	1.188	1.500	0.563	1.063	0.563	0.813	0.813	1.313				**0.960**	**0.563**	**0.872**
					0.813	1.125	1.000	0.438	0.938	0.688	0.750	0.938	0.750						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

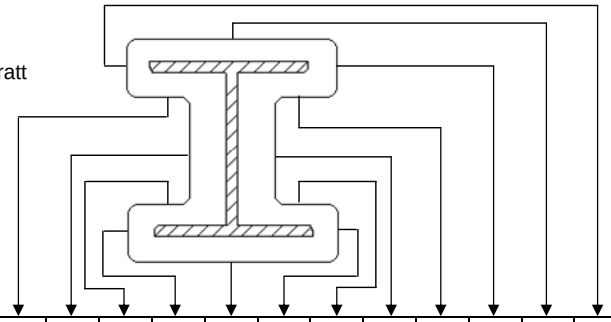
Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 10/28/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Quad C Concourse Level	Column CC/C3	W12x53	10/28/13	1.188	1.250	1.313	1.000	0.813	1.313	0.625	1.000	1.500	1.500	0.813	1.125	1.063	**1.242**	**0.789**	**1.091**
					1.250	1.375	1.063	1.000	1.125	0.625	1.125	1.438	1.313	0.688	1.313	0.688			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level	Column CA/C2.8	W12x65	10/28/16	1.125	1.438	2.188	1.563	0.750	1.438	0.625	1.000	1.688	1.250	0.813	0.938	0.875	**1.258**	**0.773**	**1.096**
					1.250	2.125	1.563	0.750	1.438	0.688	1.188	1.625	1.250	0.750	0.875	0.938			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad B Roof Level Framing	Beam CE-line C3 to C4	W21x44	10/28/13	0.625	0.750	1.125	0.625	0.438	0.563	0.438	0.438	0.625	0.563				**0.625**	**0.438**	**0.583**
					0.688	0.750	0.625	0.438	0.625	0.438	0.438	0.688	0.500						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C2-line CA to CC	W24x55	10/28/13	0.500	1.000	0.625	0.563	0.688	0.938	0.625	0.625	0.813	1.188				**0.688**	**0.531**	**0.653**
					1.063	0.688	0.625	0.438	0.875	0.375	0.500	0.938	0.938						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C2 to CB.2	W24x55	10/28/13	0.500	0.875	0.625	0.313	0.688	0.563	0.813	0.688	0.875	0.813				**0.665**	**0.594**	**0.649**
					0.875	1.000	0.500	0.500	0.625	0.438	1.125	1.063	0.813						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C3(+3') CA to CC	W24x55	10/28/13	0.500	0.875	0.688	0.563	0.375	0.688	0.500	0.438	0.500	0.563				**0.594**	**0.422**	**0.556**
					0.625	0.688	0.500	0.438	0.625	0.375	0.375	0.750	0.563						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
10/28/13	Concourse	W12x53	Column CC/C2.3	1.383	48.000	25	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
11/19/13	Concourse	W12x53	Column CC/C2.3	Cohesion	50	868	150

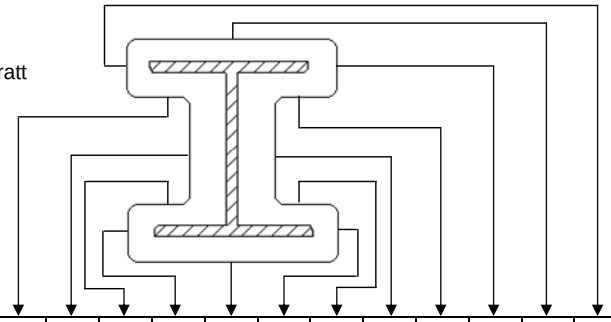
Comments: Island Fireproofing's design allows for half flange thickness. **Amended report to include adhesion/cohesion test results.**

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Concourse Level	Column CC/C3	W12x53	10/28/13	1.188	1.250	1.313	1.000	0.813	1.313	0.625	1.000	1.500	1.500	0.813	1.125	1.063	**1.242**	**0.789**	**1.091**
					1.250	1.375	1.063	1.000	1.125	0.625	1.125	1.438	1.313	0.688	1.313	0.688			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level	Column CA/C2.8	W12x65	10/28/16	1.125	1.438	2.188	1.563	0.750	1.438	0.625	1.000	1.688	1.250	0.813	0.938	0.875	**1.258**	**0.773**	**1.096**
					1.250	2.125	1.563	0.750	1.438	0.688	1.188	1.625	1.250	0.750	0.875	0.938			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad B Roof Level Framing	Beam CE-line C3 to C4	W21x44	10/28/13	0.625	0.750	1.125	0.625	0.438	0.563	0.438	0.438	0.625	0.563				**0.625**	**0.438**	**0.583**
					0.688	0.750	0.625	0.438	0.625	0.438	0.438	0.688	0.500						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C2-line CA to CC	W24x55	10/28/13	0.500	1.000	0.625	0.563	0.688	0.938	0.625	0.625	0.813	1.188				**0.688**	**0.531**	**0.653**
					1.063	0.688	0.625	0.438	0.875	0.375	0.500	0.938	0.938						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C2 to CB.2	W24x55	10/28/13	0.500	0.875	0.625	0.313	0.688	0.563	0.813	0.688	0.875	0.813				**0.665**	**0.594**	**0.649**
					0.875	1.000	0.500	0.500	0.625	0.438	1.125	1.063	0.813						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C3(+3') CA to CC	W24x55	10/28/13	0.500	0.875	0.688	0.563	0.375	0.688	0.500	0.438	0.500	0.563				**0.594**	**0.422**	**0.556**
					0.625	0.688	0.500	0.438	0.625	0.375	0.375	0.750	0.563						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
10/28/13	Concourse	W12x53	Column CC/C2.3	1.383	48.000	25	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
	Concourse	W12x53	Column CC/C2.3				150

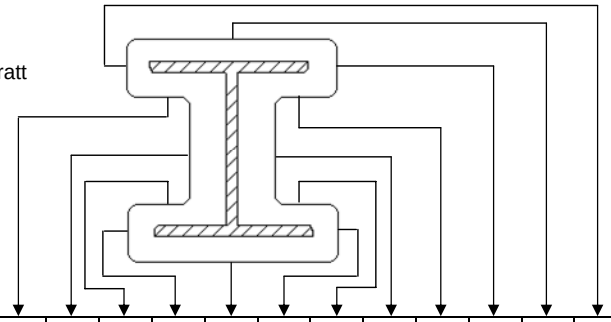
Comments: Island Fireproofing's design allows for half flange thickness. An amended report will be distributed when fireproofing cures enough to perform adhesion testing as schedueld by Cianbro.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Roof Level Framing	Beam C2.3-line CA to CC	W24x55	10/28/13	0.500	0.688	0.625	0.688	0.438	0.625	0.375	0.500	0.813	0.563				**0.629**	**0.406**	**0.580**
					0.625	0.688	0.500	0.438	0.625	0.375	0.500	0.688	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam CB.2 (+8') C1 to C2	W18x35	10/28/13	0.563	1.000	0.875	0.813	0.500	0.750	0.438	0.625	0.625	0.750				**0.723**	**0.453**	**0.663**
					1.438	0.875	0.625	0.500	0.625	0.375	0.625	0.625	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse	Column CB/C6	W10x49	10/28/13	1.125	1.250	1.625	1.500	0.813	1.438	0.750	1.125	1.188	1.000	0.563	1.625	0.813	**1.285**	**0.766**	**1.112**
					1.563	1.750	1.750	1.188	1.750	0.625	1.188	1.375	1.063	0.500	1.375	0.875			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse	Column CA/C5	W12x53	10/28/13	1.188	1.375	1.813	1.688	0.563	0.875	0.625	1.000	0.938	1.000	0.563	1.438	0.563	**1.199**	**0.602**	**1.000**
					1.313	1.313	1.438	0.563	1.063	0.563	1.125	0.938	1.063	0.750	1.500	0.625			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

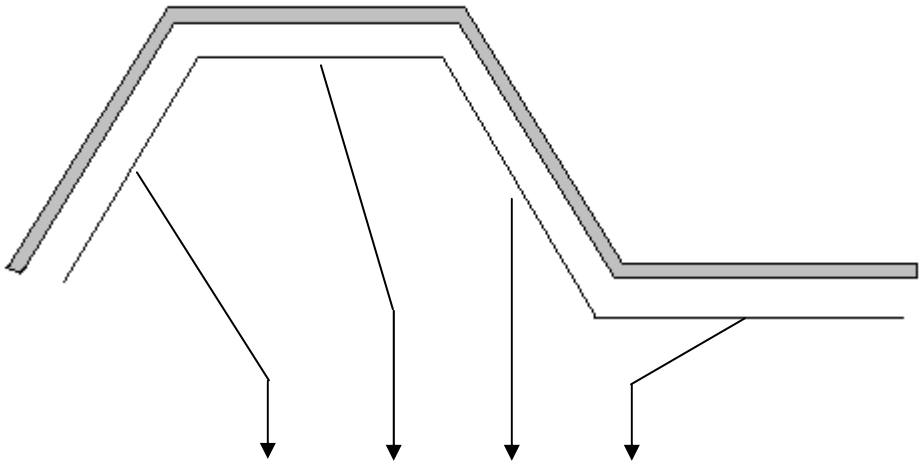
Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

REPORT OF FIRE PROOFING THICKNESS OF MATERIAL ON STEEL DECKING – ASTM E605

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center / Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Location	Required Thickness	1	2	3	4	Average Thickness
Quad C Roof	0.875	1.313	1.000	1.500	1.000	1.047
Quad C Roof	0.875	0.688	1.125	0.750	1.000	0.883
Quad C Roof	0.875	0.875	1.063	0.875	0.750	0.891

Per ASTM E-605 8.1.2.1 for the purpose of averaging measurements, any measurement 6 mm (1/4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design

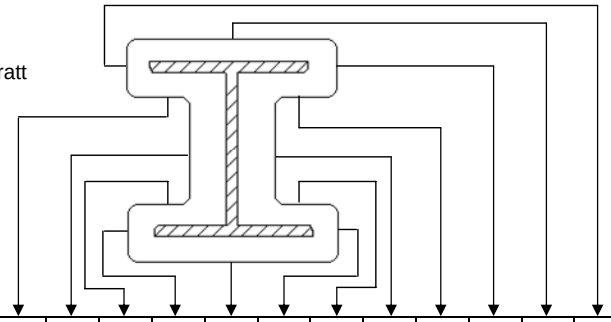
Comments:

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad C Mechanical Level	Column CB/C1.8	W12x53	10/29/13	1.188	1.563	1.625	1.125	0.875	1.313	0.500	1.438	1.688	1.625	0.625	1.000	0.875	**1.336**	**0.695**	**1.122**
					1.438	1.750	1.125	0.750	1.250	0.625	1.500	1.563	1.688	0.563	1.188	0.750			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Mechanical Level	Column CA/C2	W12x65	10/29/13	1.125	1.313	1.563	1.688	1.000	1.750	0.688	1.250	1.375	1.625	1.000	1.313	0.875	**1.320**	**0.875**	**1.172**
					1.438	1.500	1.625	1.000	1.875	0.750	1.188	1.125	1.188	0.938	1.438	0.750			
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam CB-line C1.8 to C2.8	W14x22	10/29/13	0.938	1.000	1.563	1.000	0.875	1.125	1.000	0.500	1.313	0.813				**0.996**	**0.813**	**0.955**
					1.750	1.688	0.875	0.500	1.250	0.875	0.563	1.188	0.938						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam C3-line CB to CC	W14x22	10/29/13	0.938	1.188	1.813	1.063	0.813	1.125	0.750	0.813	1.313	1.563				**1.085**	**0.719**	**1.003**
					1.875	1.688	1.188	0.688	1.000	0.625	0.813	1.063	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam C1.8 to CC	W18x55	10/29/13	0.688	1.375	1.625	1.000	0.500	1.125	1.000	1.000	1.563	1.375				**0.924**	**0.656**	**0.865**
					1.188	1.438	1.250	0.438	0.938	0.750	0.750	1.313	1.313						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Event Level Framing	Beam near C3.6-line Elevator to CC	W12x16	10/29/13	1.063	0.875	1.750	1.063	0.813	1.313	1.125	1.188	1.625	1.563				**1.192**	**0.859**	**1.118**
					1.000	1.500	0.750	0.750	1.313	0.750	1.563	1.813	1.875						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

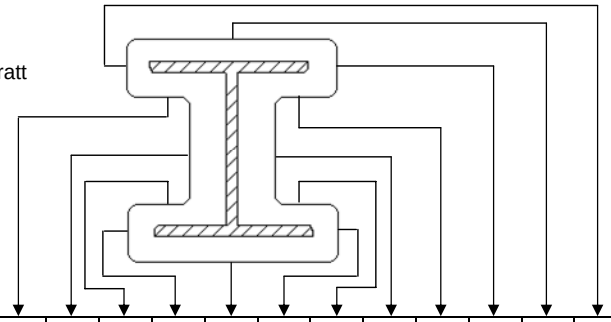
Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Quad C Roof Level Framing	Beam C5-line CA to CC	W21x44	10/29/13	0.500	0.938	0.625	0.875	0.313	0.688	0.438	0.750	0.750	1.000				**0.705**	**0.391**	**0.635**
					1.000	0.625	0.938	0.313	0.688	0.500	0.500	0.750	0.938						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C5.3 (+5') CA to CC (-5')	W18x35	10/29/13	0.563	1.125	1.125	0.750	0.500	0.625	0.375	0.563	0.875	0.750				**0.746**	**0.500**	**0.691**
					1.438	1.000	0.625	0.625	0.750	0.500	0.750	0.750	0.875						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C2-line CC to CE	W18x35	10/29/13	0.563	0.750	0.813	0.563	0.500	0.688	0.375	0.625	1.000	1.438				**0.732**	**0.453**	**0.670**
					0.875	1.000	0.500	0.500	0.625	0.438	1.125	1.063	0.813						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C3-line CC to CE	W21x44	10/29/13	0.563	1.125	1.000	0.625	0.563	0.625	0.438	0.500	0.750	0.938				**0.692**	**0.469**	**0.642**
					1.000	0.938	0.500	0.500	0.625	0.375	0.500	0.688	0.875						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam C6 (-5') CA to CB	W10x22	10/29/13	0.938	0.625	1.625	0.750	0.438	1.000	0.438	1.000	1.625	1.563				**1.018**	**0.500**	**0.903**
					1.125	1.563	0.750	0.500	0.938	0.625	0.938	1.313	1.438						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Concourse Level Framing	Beam CA-line C5 to C6	W18x35	10/29/13	0.875	1.000	1.000	0.813	0.813	1.000	0.625	0.813	1.188	1.500				**0.987**	**0.672**	**0.917**
					1.000	1.000	0.750	0.688	1.188	0.563	0.813	1.125	1.375						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

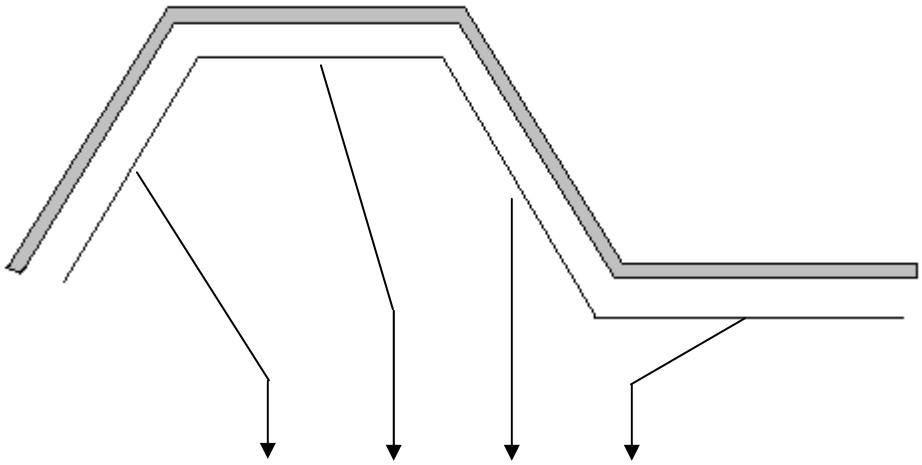
Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

REPORT OF FIRE PROOFING THICKNESS OF MATERIAL ON STEEL DECKING – ASTM E605

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center / Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date:



Location	Required Thickness	1	2	3	4	Average Thickness
Quad C Roof	0.875	1.125	1.000	1.188	0.875	1.016
Quad C Roof	0.875	1.063	0.688	1.000	0.750	0.875
Quad C Roof	0.875	1.375	1.063	1.000	0.750	0.977
Quad C Roof	0.875	0.813	1.250	0.750	0.875	0.883
Quad C Roof	0.875	1.125	1.000	1.188	0.875	1.016

Per ASTM E-605 8.1.2.1 for the purpose of averaging measurements, any measurement 6 mm (1/4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design

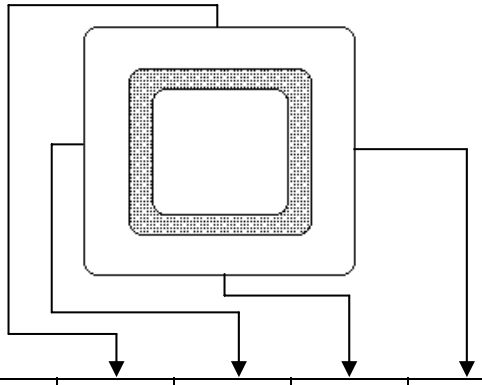
Comments:

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

REPORT OF FIRE PROOFING THICKNESS ON SQUARE TUBING – ASTM E605

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Installer: Island International Industries New England
Installation Date: 11/3/13 and 11/4/13



Location	Member Type	Required Thickness	1	2	3	4	Average Thickness
Quad D Event Level Column DA/x8	HSS 10x5x3/8	1.000	1.313	1.000	1.000	1.000	1.094
			1.188	1.000	1.375	1.063	
Quad D Event Level Column DA/x7	HSS 10x5x3/8	1.000	1.125	1.063	0.938	1.000	1.008
			1.125	1.000	0.750	1.063	
Quad D Event Level Column DD/x4	HSS 8x8x1/2	1.000	1.125	1.250	2.000	0.938	1.086
			1.000	1.000	2.000	0.875	

ASTM E-605 8.1.2.1
For the purpose of averaging measurements, any measurement 6 mm (1/4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

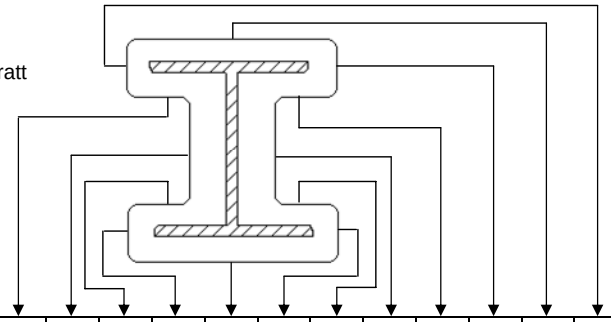
Comments:

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 11/3/2013 through 11/5/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Quad D Concourse Level Framing	Beam x8(+7) DA to xK	W8x24	11/4/13	0.875	1.250	1.313	0.750	0.750	1.188	0.688	0.688	1.250	1.375				**1.013**	**0.703**	**0.944**
					1.750	1.500	0.875	0.813	1.063	0.563	0.688	1.313	1.125						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D5 DA to xK	W8x24	11/4/13	0.875	1.250	1.188	1.000	0.688	1.000	0.625	0.875	2.000	1.438				**1.049**	**0.641**	**0.958**
					1.250	1.438	0.813	0.688	1.063	0.563	0.938	2.125	1.625						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad C Roof Level Framing	Beam C4(-5') CA to CC	W21x44	11/4/13	0.500	1.438	1.000	0.563	0.563	0.625	0.563	1.500	1.000	1.000				**0.714**	**0.625**	**0.694**
					1.125	1.000	0.563	0.625	0.750	0.750	1.375	1.188	1.188						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam DA(+12') D3 to D4	W8x28	11/5/13	0.750	0.813	1.438	0.875	0.438	1.125	0.500	0.750	1.125	1.375				**0.933**	**0.469**	**0.830**
					0.750	1.250	0.875	0.438	1.313	0.500	1.125	1.063	1.375						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D3(-6') DA to xK	W8x24	11/5/13	0.875	1.188	1.563	0.813	0.625	1.125	0.563	0.750	1.438	1.313				**1.018**	**0.734**	**0.955**
					1.375	1.625	0.750	0.625	1.063	8.000	0.750	1.500	1.375						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Mid Suite Level Framing	Beam x6/xH to elevator	W21x44	11/6/13	0.813	1.125	1.375	0.938	0.813	1.188	0.688	1.125	1.250	1.500				**1.045**	**0.797**	**0.990**
					1.188	1.500	1.250	0.938	0.938	0.750	1.125	1.438	1.500						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)
11/5/13	Quad D	10x5x3/8	xK/DA	1.063	48.000	19	15

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)
	Quad D	10x5x3/8	xK/DA				150

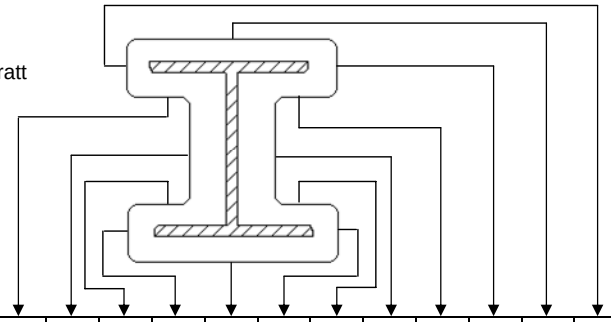
Comments: Island Fireproofing's design allows for half flange thickness. An Amended report will be distributed when fireproofing cures enough to perform adhesion testing as scheduled by Cianbro.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 11/3/13 through 11/5/13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages: Faces	Averages: Flange Tips	Averages: Total
Quad D Concourse Level Framing	Beam DC-line x2.2 to D2(+10')	W10x39	11/5/13	0.750	1.438	1.000	0.938	0.375	1.063	0.688	1.000	1.250	1.000				**0.996**	**0.547**	**0.896**
					1.563	1.063	1.125	0.500	1.063	0.625	1.125	1.313	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D3(-5') xK to DC(+20')	W10x22	11/5/13	0.938	1.063	1.313	1.000	0.625	1.250	0.688	1.125	1.000	1.000				**1.103**	**0.703**	**1.014**
					1.313	1.688	1.250	0.813	1.125	0.688	1.000	1.438	1.000						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D3(+5') DC to elevator	W10x15	11/5/13	1.000	1.750	1.000	0.938	0.500	1.125	0.500	1.000	1.375	1.313				**1.121**	**0.516**	**0.986**
					2.000	1.125	1.000	0.500	1.188	0.563	0.813	1.438	1.500						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D2(-7') DC to DC(+20')	W10x33	11/5/13	0.813	1.500	1.563	1.000	0.688	1.125	8.000	1.188	1.750	1.188				**1.054**	**0.734**	**0.983**
					1.188	1.688	1.000	0.625	1.188	0.563	1.438	2.000	1.188						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Concourse Level Framing	Beam D3-line DE to DE(-10')	W6x15	11/5/13	1.000	1.438	2.125	1.125	0.500	1.000	0.500	0.750	1.250	1.750				**1.129**	**0.500**	**0.990**
					1.250	2.000	1.063	0.500	1.125	0.500	0.750	1.375	1.625						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Mid Suite Level Framing	Beam D4-line xK to DD/D4	W21x111	11/6/13	0.563	0.750	0.875	0.750	0.563	0.813	0.750	0.750	0.875	1.000				**0.768**	**0.547**	**0.719**
					0.563	0.813	0.813	0.375	0.750	0.500	0.688	0.813	1.063						

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

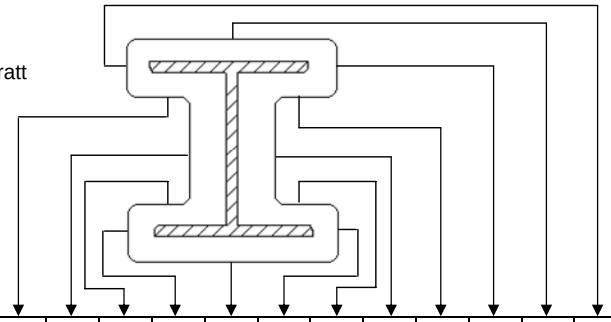
Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by:

S.W.COLE ENGINEERING, INC.

SFRM REPORT ON BEAM OR COLUMN
ASTM E605/E736

Project Name: Cumberland County Recreation Center
Project Number: 12-0034.1
Client: Cumberland County Recreation Center/Neil Pratt
SFRM Supplier: Isolatek International
SFRM Material: Cafco 300
SFRM Installer: Island International Industries New England
Installation Date: 11-16 and 11-17-13



Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Averages Faces	Averages Flange Tips	Averages Total
Quad D Upper Suite Framing	beam from existing corner to W16	W12x26	11/18/13	0.875	1.188	1.188	0.563	0.500	1.313	0.438	0.813	1.313	1.000				**0.964**	**0.516**	**0.865**
					1.313	1.125	0.500	0.500	1.438	0.625	0.688	1.438	0.938						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Entry Roof Framing	DZ-line beam from D1 to x2.2	W12x16	11/18/13	0.625	1.563	1.125	0.500	0.375	0.500	0.313	1.188	1.000	1.375				**0.799**	**0.344**	**0.698**
					1.750	1.125	0.750	0.375	0.688	0.313	0.875	1.063	1.375						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Entry Roof Framing	beam at DA(+5') from x2.2 to D1	W10x33	11/18/13	0.500	1.125	0.750	0.500	0.563	0.563	1.125	0.563	1.000	1.563				**0.652**	**0.563**	**0.632**
					1.063	0.563	0.438	0.438	0.688	0.500	0.563	0.875	1.625						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Quad D Club Roof Framing	beam at DC(+15') from x2.2 to D1	W14x22	11/18/13	0.625	1.125	0.875	0.438	0.500	0.500	0.375	0.875	0.813	1.750				**0.746**	**0.422**	**0.674**
					1.375	1.000	0.375	0.500	0.563	0.313	0.750	1.438	1.438						
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total
Floor No.	Column/Beam No.	Type	Test Date	Spec.	1	2	3	4	5	6	7	8	9	10*	11*	12*	Faces	Flange Tips	Total

* Not required for beams

ASTM E-605 8.1.2.1 For the purpose of averaging measurements, any measurement 6 mm (1⁄4 in.) or more, over the required design thickness, shall be recorded as the design thickness plus 6 mm. (Averages reflect ASTM guidelines). No individual measured thickness shall be more than 6 mm less, or more than 25 % less, than the required design thickness.

ASTM E-605 8.1.2.1 Note 1- Specific fire resistance rating criteria for beams, trusses, and columns may allow for a reduced thickness on flange tips. These thicknesses are to be averaged apart from other sections of the structural member.

DENSITY

Test Date	Framing Level	Member Type	Member Location	Thickness (in)	Area (in^2)	Density (pcf)	Specification (pcf)

ADHESION/COHESION

Test Date	Framing Level	Member Type	Member Location	Failure Type	Force (lbs)	Bond (psf)	Specification (psf)

Comments: Island Fireproofing's design allows for half flange thickness.

Sampled by: K. Gimpel
Reviewed by: