



**MIAMI-DADE COUNTY**  
 BUILDING CODE COMPLIANCE OFFICE (BCCO)  
 PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA  
 METRO-DADE FLAGLER BUILDING

140 WEST FLAGLER STREET, SUITE 1603  
 MIAMI, FLORIDA 33130-1563  
 (305) 375-2901 FAX (305) 375-2908

**NOTICE OF ACCEPTANCE (NOA)**

[www.miamidade.gov](http://www.miamidade.gov)

**Rubb, Inc.**  
 1 Rubb Lane  
 Sanford, Maine 04073

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: Ferrari Preconstraint 1202 Tensioned Arch. Textile Fabric Membrane**

**APPROVAL DOCUMENT:** Drawing No. 47847, titled " Fabric Testing, Test Sheets ", one sheet, dated July 08, 2010, last revision #D dated February 21, 2011, and Drawing No. 47881, titled " Fabric Testing, Pocket Tubes ", one sheet, dated July 21, 2010, last revision #A dated February 21, 2010, both drawings signed and sealed by Gary E. Sutryn, P.E., on October 12, 2011, bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and the approval date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each structure shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1, evidence submitted pages E-1 & E-2 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



*Helmy A. Makar*  
 10/27/2011

NOA No. 11-0518.05  
 Expiration Date: 10/27/2016  
 Approval Date: 10/27/2011  
 Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. 47847, titled " Fabric Testing, Test Sheets ", one sheet, dated July 08, 2010, last revision #D dated February 21, 2011, and Drawing No. 47881, titled " Fabric Testing, Pocket Tubes ", one sheet, dated July 21, 2010, last revision #A dated February 21, 2010, both drawings signed and sealed by Gary E. Sutryn, P.E., on October 12, 2011.*

**B. TESTS**

1. *Test report on Large Missile Impact per TAS 201 and Cyclic Wind Pressure per TAS 203 on Tension Membrane Roof, prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-3107, dated October 04, 2010, signed and sealed by Candido Font, P.E.*
2. *Test report on Large Missile Impact per TAS 201 and Cyclic Wind Pressure per TAS 203 on Tension Membrane Roof, prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-3110, dated October 04, 2010, signed & sealed by Candido Font, P.E.*
3. *Test report on Accelerated Weathering Testing of Coating 4500 hours per ASTM G 155-05a, prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-A114, dated October 15, 2010, signed and sealed by Candido Font, P.E.*
4. *Test report on Accelerated Weathering Testing of Coating 4500 hours per ASTM G 155-05a, prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-A117, dated December 06, 2010, signed and sealed by Candido Font, P.E.*
5. *Test report on Uniform Static Pressure per TAS 202 on Tension Membrane Roof prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-3109, dated October 04, 2010, signed and sealed by Candido Font, P.E.*
6. *Test report on Uniform Static Pressure per TAS 202 on Tension Membrane Roof prepared by Hurricane Engineering & Testing, Inc., Report # HETI-10-3105, dated October 04, 2010, signed and sealed by Candido Font, P.E.*

**C. CALCULATIONS**

1. *Calculations titled "Calculations for Membrane Tension" prepared by Gary E. Sutryn, P.E., dated February 21, 2011, 5 sheets, signed and sealed by Gary E. Sutryn, P.E.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Permitting, Environment, and Regulatory Affairs.*

**E. MATERIAL CERTIFICATIONS**

1. *Tension Test for Grommet Bearing Strength, prepared by Hurricane Engineering & Testing, Inc., report # HETI-10-T131, dated October 04, 2010, signed and sealed by Candido Font, P.E.*

  
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Helmy A. Makar, P.E., M.S.  
PERA, Product Control Unit supervisor  
NOA No. 11-0518.05  
Expiration Date: 10/27/2016  
Approval Date: 10/27/2011

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

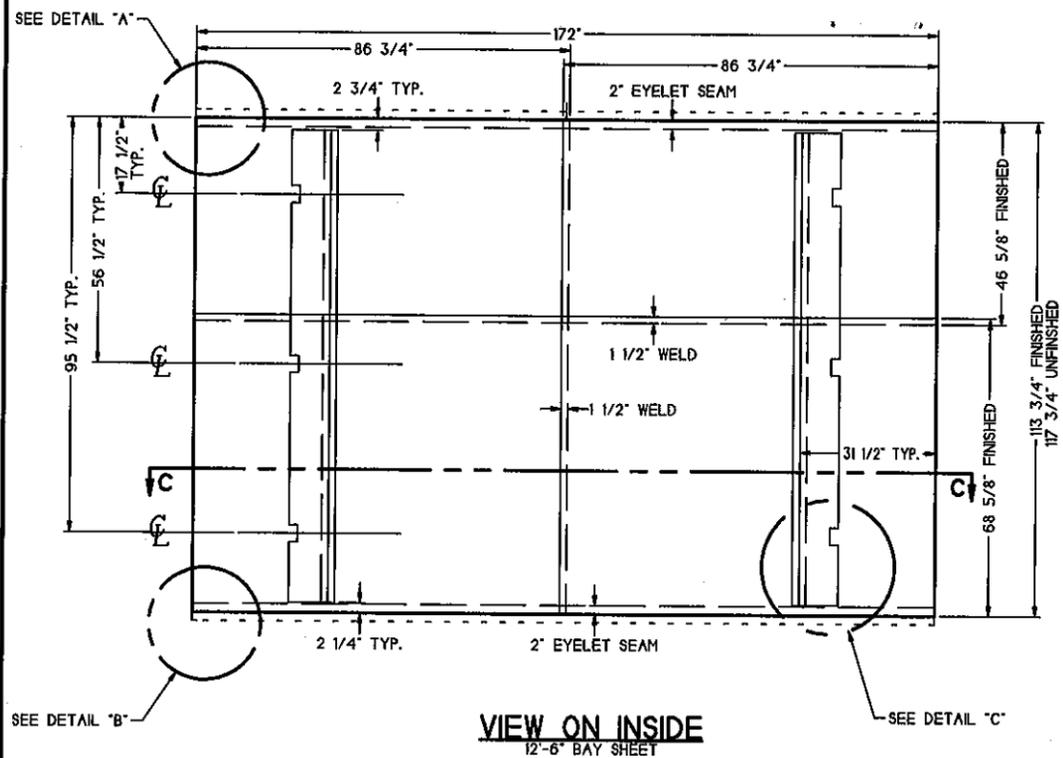
2. *Tensile Test for Seam Tensile Strength, prepared by Hurricane Engineering & Testing, Inc., report # HETI-10-T132, dated October 04, 2010, signed and sealed by Candido Font, P.E.*
3. *Tensile Test, prepared by Hurricane Engineering & Testing, Inc., report # HETI-10-T133, dated October 04, 2010, signed and sealed by Candido Font, P.E.*
4. *Tension Test for Welded Pocket Tensile Strength, prepared by Hurricane Engineering & Testing, Inc., report # HETI-10-T134, dated October 04, 2010, signed and sealed by Candido Font, P.E.*
5. *Self-Ignition Temperature per ASTM D 1929, Rate and Extent of Burn per ASTM D 635, and Smoke Density Test per ASTM D 2843 of White Ferrari Material, prepared by Hurricane Engineering & Testing, Inc., report # HETI-10-F504, dated October 04, 2010, signed and sealed by Candido Font, P.E.*

**F. OTHERS**

1. *Letter from Gary E. Sutryn, P.E., dated February 21, 2011, signed and sealed by Gary E. Sutryn, P.E., stating that he is the Engineer of Record on this product, he is still practicing engineering in Florida, and this product in compliance with the current Florida Building Code.*

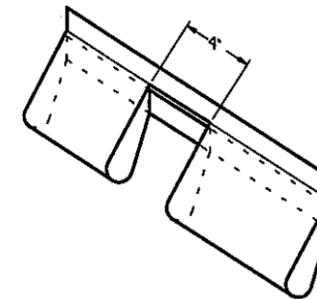


Helmy A. Makar, P.E., M.S.  
PERA, Product Control Unit supervisor  
NOA No. 11-0518.05  
Expiration Date: 10/27/2016  
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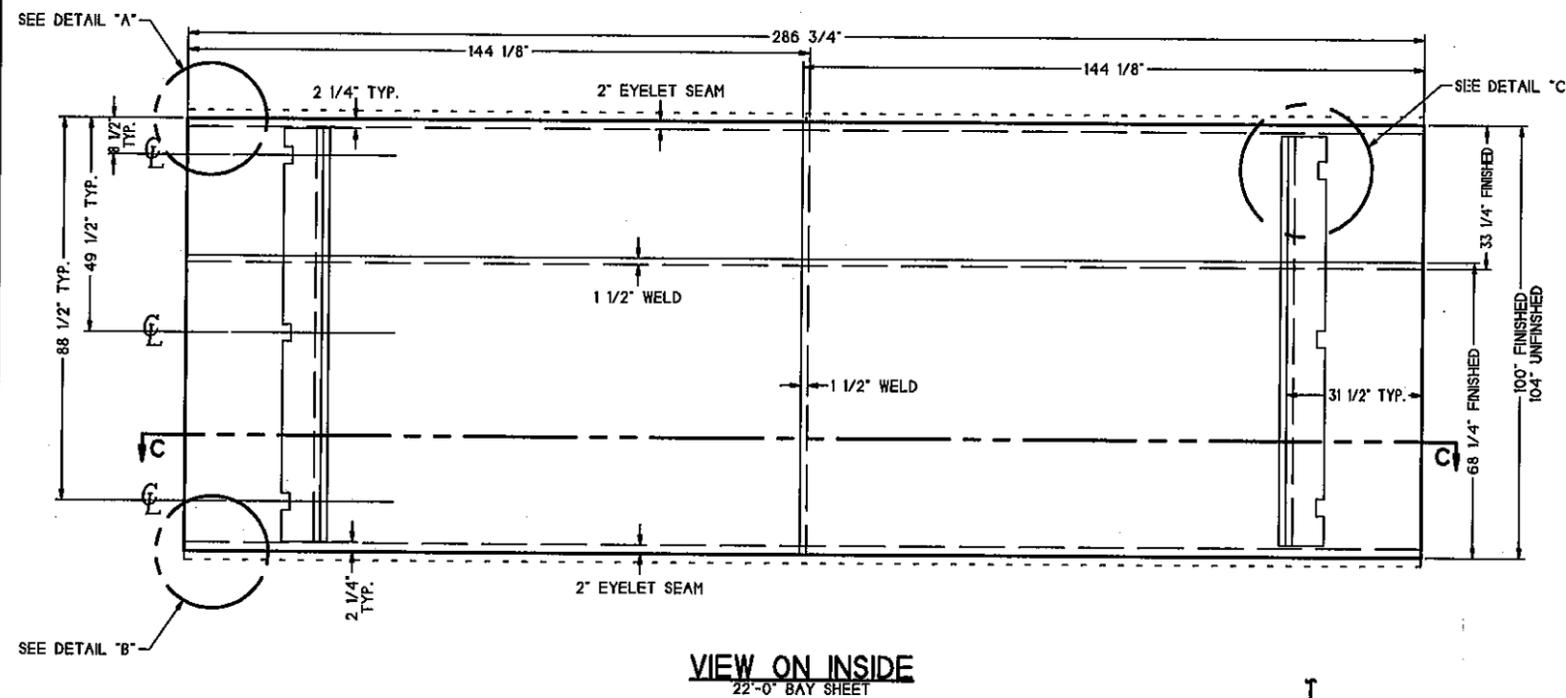


USED POCKET TUBE TT1.  
SEE DRAWING 47881  
FOR DETAILS.

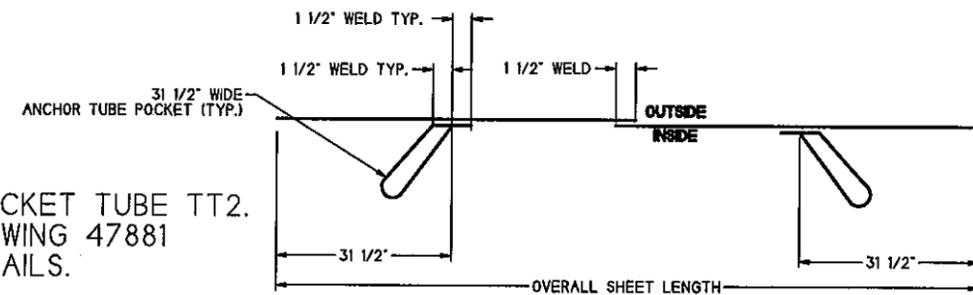
- GENERAL NOTES:
- 1.) ACTUAL PROJECTS SHALL USE POCKET TUBES TO SUPPORT THE FABRIC. THE SUPPORTING TUBE AND ALL OF THE HARDWARE AS WELL AS THE TENSION IN THE FABRIC SHALL BE DESIGNED BY A FLORIDA REGISTERED ENGINEER ON A CASE BY CASE BASIS AND REVIEWED BY THE CORRESPONDING BUILDING PLANS EXAMINER. THE TUBE SHALL BE CONTINUOUS.
  - 2.) THE MAXIMUM DESIGN TENSION IN FABRIC - 130.0 #/IN.
  - 3.) THE WIDTH OF THE FABRIC IS UNLIMITED.
  - 4.) THIS MEMBRANE FABRIC IS TESTED IN ACCORDANCE WITH THE FOLLOWING:  
TAS 201 - IMPACT TEST (LARGE MISSILE)  
TAS 202 - UNIFORM STATIC WIND PRESSURE TEST.  
TAS 203 - CYCLIC WIND PRESSURE TEST.



DETAIL "C"  
(NOT TO SCALE)



USED POCKET TUBE TT2.  
SEE DRAWING 47881  
FOR DETAILS.

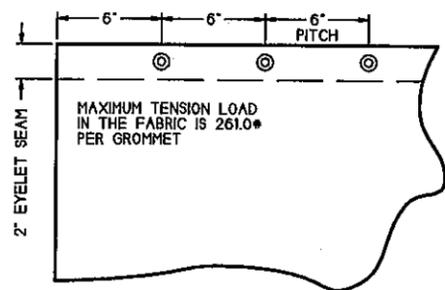


TYPICAL SECTION "C-C"  
(NOT TO SCALE)

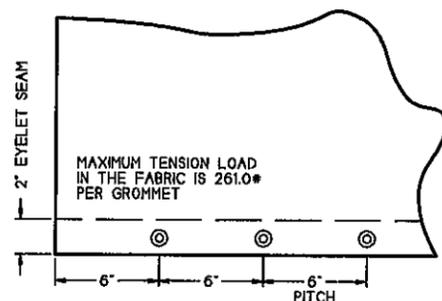
Approved as complying with the  
Florida Building Code  
Date 10/27/2011  
NOA# 11-0518.05  
Miami Dade Product Control

By *Helmut A. Nelson*

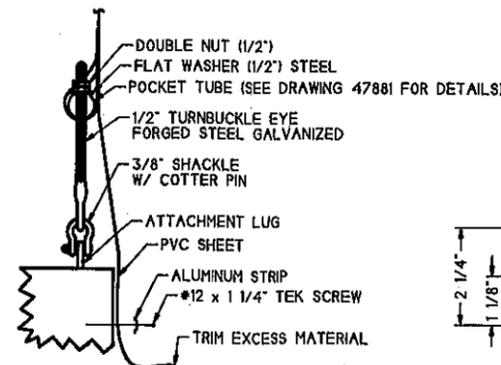
- NOTES:
- 1.) MATERIAL TO BE FERRARI PRECONSTRAINT 1202S.
  - 2.) SEE DRAWING 47881 FOR GALVANIZED STEEL POCKET TUBES.



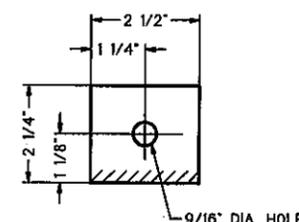
EYELET SPACING DETAIL "A"  
4x SCALE



EYELET SPACING DETAIL "B"  
4x SCALE



ATTACHMENT DETAIL  
NOT TO SCALE



ATTACHMENT LUG  
1/2" THICK, A36 MATL.  
10x SCALE

REV	DESCRIPTION	DRAWN	APP.	DATE
E	REVISED PER MIAM-DADE COMMENTS	MRB		
D	REVISED TO SHOW AS TESTED CONFIGURATION	LBC	AR	2/21/11
C	REVISED TO SHOW FINAL CONFIGURATION	MAG	-	-
B	ADDED DIMENSIONS TO CUTOUTS	MAG	-	-
A	REVISED FOR FABRICATION	MAG	GES	07-21-10

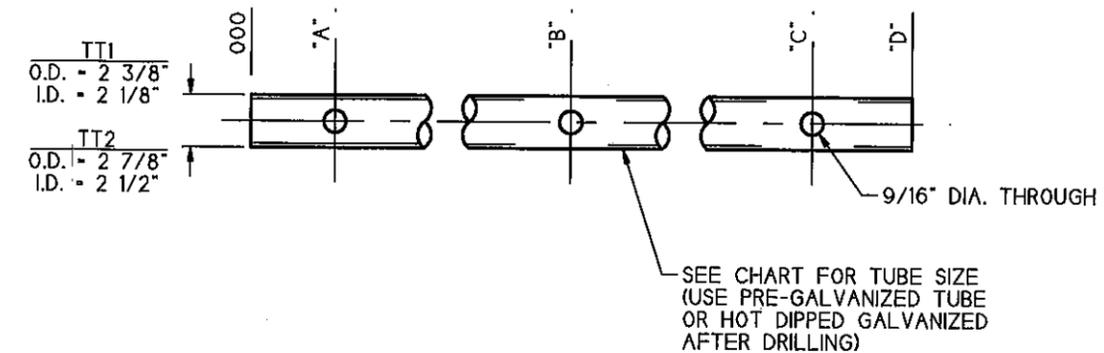
  

We Cover The World		FABRIC TESTING TEST SHEETS	
<b>RUBB</b>		BUILDING SYSTEMS	
DRAWN	MAG 07-08-10	SCALE	1 : 20
PROJ	-	JOB #	10030
DATE	-	JOB NAME	-
RUBB, INC. SANFORD MAINE 04073		DRAWING NO. 47847	
TEL: 207-324-2877 FAX 207-324-2347			

*Handwritten signature and date: 10/27/11*

# PRECONTRAIN<sup>®</sup> 1202 FORMULA S

Spécifications techniques	Technical specifications	Précontraint <sup>®</sup> 1202 Formule S	Normes Normes
Fit	Yarn	PES HT 1100/1670 Dtex	TERSUISSE
Masse totale	Total mass	1050 g/sqm 31 oz/sqyd	NF EN ISO 2286:2
Largeur	Width	180 cm	(-1mm/+1mm)
Resistance traction (chaîne/trame)	Tensile strength (warp/weft)	560/560 daN/5 cm 580/580 Lbs	NF EN ISO 1421 FIMS 191 A Method 5102
Resistance déchirure (chaîne/trame)	Tear strength (warp/weft)	80/65 daN 100/60 Lbs	DIN 53.363 ASTM D 5733-95 Trapezoid
Adhérence	Adhesion	12 daN/5 cm	NF EN ISO 2411
Reaction au feu	Flame retardancy	B1/DIN 4102 - NFPA 701 - SIS 650082 - SN 198898 BS 7837 - CSFM NFP 92.503 M2 sur demande spéciale à 1250 g/sqm	
Traitement de surface	Surface Treatment	FORMULE S : Alliage PVDF CALIBRÉ / CALIBRATED PVDF alloy	
Les données de la fiche technique ci-dessus sont des valeurs moyennes avec une tolérance de +/- 5%. / The technical data here above are average values with a +/- 5% tolerance.			
<b>Informations complémentaires</b>		<b>Additional informations</b>	
Épaisseur d'enduction en crête des fils	Coating thickness at the top of the yarns	270 microns	
Épaisseur totale	Total thickness	0,78 mm	
Passage lumineux <i>"Méthode diffus/diffus" proche de la perception de l'œil humain.</i>	Light transmission <i>"Diffuse/diffuse" method, close to human eye perception.</i>	10%	NFP 38-511
Indice de blanc	White index	82 %	CIE: Commission Internationale de l'Éclairage
Valeurs thermiques Transmission solaire Réflexion solaire Absorption solaire Facteur solaire	Thermal values Transmission Reflexion Absorption Shading coefficient	T <sub>s</sub> 7 % R <sub>s</sub> 77 % A <sub>s</sub> 16 % F <sub>s</sub> 13 %	ASHRAE standard 74-1988
Transmission UV	Transmission UV	T-UV 0%	Eppley Solar & Sky U-V radiometer
Conductance thermique globale Position verticale Position horizontale	Global thermal conductivity Vertical position Horizontal position	U= 5,6W/sqm/°C U= 6,4W/sqm/°C	
Les données U sont des valeurs obtenues par calcul lors de simulations des conditions moyennes d'utilisation et sont données comme ordre de grandeur. The U data are obtained by calculation through simulations of the average conditions of use, those values must be considered as approximation.			
Indice d'affaiblissement acoustique	Acoustical weakening index	Rw: 15 dBA Tolerance +/- 1 dBA	ISO 717
Températures extrêmes supportées ponctuellement par la membrane installée Maximum temporary temperatures sustained by the installed membrane			- 30°C/+ 70°C
Management de la qualité selon	Quality management according to		ISO 9001



**POCKET TUBE DETAIL**  
10x SCALE

### FERRARI PRE-CONSTRAINT 1202S

This is to confirm that Ferrari composite materials are made of:

- High Tenacity Polyester base cloth which provides the mechanical strength to the fabric
- Plasticized PVC coating both sides for waterproofness, UV resistance, fungicide treatment, flame retardency treatment
- Surface treatments, top and back side, which can be made of various formulations of acrylic and PVDF based varnishes.

The surface treatment provides some resistance to dirt build up and allows efficient cleaning over time.

- Typically the S and S2 surface treatment are approximately 5 to 7 microns thick and are made of a calibrated PVDF/ACRYLIC alloy, weldable by high frequency machines.
- The FLUOTOP T2 surface treatment is approximately 12 to 15 microns thick and is made with a higher concentration of PVDF. This treatment is not weldable as such and needs an abrasion process of the edge prior to high frequency welding.

A given type of material, identified under a product code such as PRECONSTRAINT 1202 complies with all the mechanical characteristics stated in the corresponding data sheet which is audited under ISO 9001. The surface treatment does not interfere with the mechanical characteristics nor the flame retardency rating.

### SUMMARY OF RESULTS

DESCRIPTION	TEST STANDARDS	TEST RESULT	MIAMI-DADE COUNTY CRITERIA
SELF IGNITION TEMPERATURE (T <sub>si</sub> )	ASTM D 1929	830°F	ACCEPTABLE IF T <sub>si</sub> > 650°F
RATE OF BURNING	ASTM D 635	---	PASSED (C-1: < 1.0 in/min)
AVERAGE TIME OF BURN	ASTM D 635	5 SEC	---
AVERAGE EXTENT OF BURN	ASTM D 635	---	---
SMOKE DENSITY (S <sub>d</sub> )	ASTM D 2843	44.22%	ACCEPTABLE IF S <sub>d</sub> < 75%
ACCELERATED WEATHERING	ASTM G 155-05a	PASS	ACCEPTABLE IF < 10%

ASS'Y	QTY.	SIZE	A	B	C	D	MATERIAL SPEC.
TT1	2	HSS 2 3/8" x 0.125"	15 1/8"	54 3/4"	93 3/4"	108 3/4"	A500, FY-50ksi
TT2	2	HSS SCH. 40 PIPE	8 1/4"	47 1/2"	87"	95"	A53, FY-35ksi

Approved as complying with the Florida Building Code  
Date 10/27/2011  
NOA# 11-0518.05  
Miami Dade Product Control  
By Helmut A. Madler  
10/12/11

NOTE:  
1.) BREAK SHARP CORNERS FOR PVC.  
2.) BILL OF MATERIALS IS FOR TOTAL QUANTITY REQUIRED.

B	REVISED PER MIAMI-DADE COMMENTS	MRB		
A	REVISED TO SHOW FINAL CONFIGURATION	LBC	-	-
REV.	DESCRIPTION	DRAWN	APP.	DATE
We Cover The World <b>RUBB</b> BUILDING SYSTEMS		TITLE FABRIC TESTING POCKET TUBES		
DRAWN	MAG 07-21-10	SCALE	1 : 30	
APP.	GES 07-21-10	JOB #	10030	
DATE		JOB NAME	-	
RUBB, INC. SANFORD MAINE 04073 TEL: 207-324-2877 FAX 207-324-2347				DRAWING NO. 47881