



# SUBSTITUTION REQUEST

(During the Bidding/Negotiating Stage)

Project: \_\_\_\_\_ Substitution Request Number: \_\_\_\_\_

From: \_\_\_\_\_

To: \_\_\_\_\_ Date: \_\_\_\_\_

A/E Project Number: \_\_\_\_\_

Re: \_\_\_\_\_ Contract For: \_\_\_\_\_

Specification Title: \_\_\_\_\_ Description: \_\_\_\_\_

Section: \_\_\_\_\_ Page: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

Proposed Substitution: \_\_\_\_\_

Manufacturer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: \_\_\_\_\_

Signed by: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

### A/E's REVIEW AND ACTION

- Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
- Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
- Substitution rejected - Use specified materials.
- Substitution Request received too late - Use specified materials.

Signed by: \_\_\_\_\_

Date: \_\_\_\_\_

Supporting Data Attached:  Drawings  Product Data  Samples  Tests  Reports  \_\_\_\_\_

# **BARRIER-BAC**

Superior Vapor Barrier Products

## Striking the Right Balance for Optimum Performance

Through state-of-the-art cross lamination technology, Barrier-Bac engineers have developed vapor barriers with the right balance between very low permeance and extremely high puncture resistance.

### **Features & Benefits**

- Manufacture 11mil, 16mil, and 31mil Composite Vapor Barriers
- Exceeds ASTM E 1745 Class A, B and C Specifications
- Manufactured in the USA

Our cross laminated products are manufactured with a proprietary blend of polyolefin resins. This technology produces a product that will maintain a very low permeance and an extremely high puncture resistance throughout the life of the structure.

Restricts migration of soil gases such as Radon and Methane.

### **VBC-350**



The 31mil VBC-350 Composite Vapor Barrier creates a mechanical bond to 100% of the concrete slab. This ensures integral bonding of the vapor barrier to the concrete slab and eliminates separation. VBC-350 offers extremely low permeance and an unsurpassed puncture resistance creating "The Ultimate Vapor Barrier".

### **VB-250 VB-350**



Barrier-Bac VB-250 (11 mil) and VB-350 (16 mil) were manufactured to not only meet ASTM E 1745 Class A specification but to set a higher standard in the Vapor Retarder Industry. These cross laminated products produce very low permeance and superior puncture resistance and tensile strength. This combination makes Barrier-Bac an outstanding vapor barrier among its peers.

### **XF Seam Tape**



Our XF Seam Tape is 28 mil thick and manufactured from the same proprietary blend of polyolefin as the vapor barriers which gives it an indefinite lifespan. ( Sealing tape should always be manufactured to the same standard as the vapor retarder. )

All of our products have been independently tested by a third party.

**Optimum Performance = Increased Level of Protection on The Project**

---

# BARRIER-BAC

Superior Vapor Barrier Products

## Product Specifications



	Test Standards/ Methods	VB-250 (11 mil)	VB-350 (16 mil)	VBC-350 (31 mil)
Classification	ASTM E 1745	Exceed Class A, B and C	Exceed Class A, B and C	Exceed Class A, B and C
Water Vapor Permeance	ASTM E 96, Procedure B	0.020 ( US Perms)	0.007 ( US Perms)	0.007 ( US Perms)
Tensile Strength	ASTM E 154 (ASTM D 882)	50 lbf/in	83.75 lbf/in	136 lbf/in
Puncture Resistance	ASTM D 1709	2400 grams	3960 grams	5210 grams
Radon Diffusion Coefficient	K124/02/95	$2.5^{(-11)}\text{m}^2/\text{S}$	$2.4^{(-11)}\text{m}^2/\text{S}$	$2.4^{(-11)}\text{m}^2/\text{S}$
Methane Permeance	ASTM D 1434	143.41 $\text{cm}^3/(\text{m}^2. \text{Atm. day})$	90.59 $\text{cm}^3/(\text{m}^2. \text{Atm. day})$	90.59 $\text{cm}^3/(\text{m}^2. \text{Atm. day})$

Note: Information herein, to the best of our knowledge, are typical property values and intended as guides only. Inteplast Group makes no warranties as to the suitability for specific use of merchantability of products referred to, no guarantee, expressed or implied, is made as to product application for a particular use.



**INTEPLAST GROUP**<sup>®</sup>

OFFICE: 9 Peach Tree Hill Rd., Livingston, NJ 07039  
PLANT: 101 Inteplast Blvd., Lolita, TX 77971

TEL: 877-535-0555  
FAX: 800-709-6002  
E-MAIL: [info@BarrierBac.com](mailto:info@BarrierBac.com)  
WEB SITE: [www.BarrierBac.com](http://www.BarrierBac.com)

## Technical Data

## VB-350 (16mil) Vapor Retarder

DIVISION: 072600,033000

### 1.0 PRODUCT NAME

VB-350 (16 mil)

Class A Vapor Retarder

Exceeds ASTM E 1745 class A, B & C

Vapor Retarder Specifications

### 2.0 MANUFACTURER

Inteplast Group

9 Peach Tree Hill Road

Livingston, NJ 07039

Technical Assistance

Tel: (877) 535-0555

Fax: (800) 709-6002

### 3.0 PRODUCT DESCRIPTION

VB-350 (16 mil) Vapor Retarder is a high performance under slab vapor retarder developed for the construction industry to retard moisture migration through concrete slabs. It may also be used to control radon, methane, sulphates and many other soil contaminants. The ribbed surface has much higher Coefficient of Friction (0.6 COF) than the competitor's smooth surface (around 0.2 COF). It not only reduces the slip and fall risk for workers walking on it, but also keeps wet concrete slabs more stably atop the ribbed surface.

### 3.1 COMPOSITION

VB-350 (16 mil) Vapor Retarder is manufactured to the highest standards with proprietary polyolefin resins. The manufacturing process for the VB-350 (16 mil) Vapor Retarder is made by XF Film, a multi-layer, co-extruded, cross-laminated system.

VB-350 (16 mil) vapor retarder is manufactured in 12.75 ft × 150 ft rolls (1913 ft<sup>2</sup>).

VB-350 (16 mil) vapor retarder weighs approximately 137 lbs. per roll.

### 4.0 TECHNICAL DATA

Applicable Standards:

ASTM, American Society for Testing & Materials

- ASTM E 1745 Standard Specification for Water Vapor Retarders used in Contact with Soil or Granular Fill Under Concrete Slabs.
- ASTM E 154 Standard Test Methods for Water Vapor Retarders used in Contact with Earth Under Concrete Slabs, on Walls, or as a Ground cover.
- ASTM D 1709 Standard Test Methods for Impact Resistance of Plastic Films by the Free Falling Dart Method.
- ASTM E 96 Standard Test Method for Water Vapor Transmission of Materials.
- ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting.

Table 1: Physical Properties of VB-350 (16 mil) Vapor Retarder

Water Vapor Permeance	ASTM E 96	0.007 ( US Perms)
Tensile Strength	ASTM E 154-93 (ASTM D 882 )	83.75 lbf/in
Puncture Resistance	ASTM E 1709	3960 grams
Coefficients of Friction	ASTM D 1894	0.6
Methane Permeance	ASTM D 1434	90.59 cm <sup>3</sup> /(m <sup>2</sup> . Atm. Day)
Radon Diffusion Coefficient	K124/02/95	2.4 <sup>-11</sup> m <sup>2</sup> /S
Life Expectancy	ASTM E 154	indefinite

## Technical Data

## VB-350 (16mil) Vapor Retarder

DIVISION: 072600,033000

### 4.0 TECHNICAL DATA (Continued)

- ASTM E 1643 Standard Practice for installation of Water Vapor Retarders used in Contact with Earth or Granular Fill Under Concrete Slabs.
- ASTM E 1894 Standard Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheeting.
- ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting.

ACI, American Concrete Institute

- ACI 302.1 R-04 Minimum Thickness (10 mil)
- K124/02/95 Method To Test Radon Diffusion Coefficient in Radon-Proof Membrane.

### 5.0 INSTALLATION

VB-350 (16 mil) Vapor Retarder shall be installed over tamped earth, sand or aggregate base by unrolling and completely covering area to receive building slab or specified area. Overlap all seams a minimum of 6" and seal with Barrier-Bac Seam Tape. All penetrations must be sealed with Barrier-Bac membrane and Barrier-Bac Seam Tape per manufacturer's recommendations. Specific project details and recommendations can be provided by Inteplast Group upon request.

### 6.0 AVAILABILITY & COST

VB-350 (16 mil) Vapor Retarder is available nationally through our network of building supply companies. Please contact our corporate office for a distributor

in your area. VB-350 (16 mil) Vapor Retarder is cost efficient. Pricing can be obtained by contacting your local Barrier-Bac distributors or sales representatives.

### 7.0 WARRANTY

We warrant and guarantee our specifications as published. Published test results are based upon accepted industry practice as well as the test methods called for and listed on our test documents. We believe, to the best of our knowledge, that our published results are accurate and reliable and that they represent our vapor retarder membrane. Inteplast Group cannot control site conditions and improper installation practices. Therefore, no warranty, expressed or implied, is given, including those of merchantability, fitness for a particular purpose or any other matter with respect to the product.

### 8.0 MAINTENANCE

No maintenance is required.

### 9.0 TECHNICAL SERVICES

Technical services for all of our products can be obtained by calling our corporate office.

Corporate Office:  
(877)535-0555

### 10.0 FILING SYSTEMS

Barrier-Bac brochures are available from Barrier-Bac distributors, sales representatives, Inteplast Group and on our website:  
<http://www.BarrierBac.com>



**INTEPLAST GROUP®**

OFFICE: 9 Peach Tree Hill Rd., Livingston, NJ 07039  
PLANT: 101 Inteplast Blvd., Lolita, TX 77971

TEL: 877-535-0555

FAX: 800-709-6002

E-MAIL: [info@BarrierBac.com](mailto:info@BarrierBac.com)

WEBSITE: [www.BarrierBac.com](http://www.BarrierBac.com) / [www.inteplast.com](http://www.inteplast.com)

## Technical Data

## White Bond Tape

DIVISION: 033000, 072600

### 1.0 PRODUCT NAME

Barrier-Bac White Bond Tape

### 2.0 SUPPLIER

Inteplast Group  
9 Peach Tree Hill Road  
Livingston, NJ 07039

Technical Assistance  
tel: (877) 535-0555  
fax: (800) 709-6002  
www.barrierbac.com

### 3.0 PRODUCT DESCRIPTION

Barrier-Bac White Bond Tape is a polyethylene pressure sensitive tape which is white in color. This tape is made specifically to be used for seaming overlap joints of Barrier-Bac vapor barrier membrane.

As part of the Barrier-Bac Vapor Barrier systems, Barrier-Bac White Bond Tape is formulated to be installed in ambient temperatures of 32 degrees F to 150 degrees F and provides excellent bonding in both high and low temperatures.

### 3.1 COMPOSITION

Barrier-Bac White Bond Tape is a high tack tape offering a very high adhesive strength to seal vapor barrier seams. The adhesive is made with a synthetic rubber compound which provides excellent bonding in low temperature applications and will maintain a watertight seal in all weather conditions.

### 3.1 SIZE & PACKAGING

Barrier-Bac White Bond Tape is available in standard size of 4" x 150 '(96mm x 45.7M) per roll. Barrier-Bac White Bond Tape net weighs approximately 2 pounds per roll.

12 rolls of Barrier-Bac White Bond Tape are packed in a case.

324 rolls Barrier-Bac White Bond Tape are on a pallet, 27 cases.

### 4.0 TECHNICAL DATA

Physical Properties of Barrier-Bac White Bond Tape

Property	Test Method	Value
Tensile Strength	ASTM D 3759	22.7 lbs/in
Elongation	ASTM D 3759	93%
Water Vapor Permeance	ASTM D-3833	0.080 US Perms
Peel Adhesion	ASTM D 3330	95 oz/in
Application Temp	Degree F	32 F to 150 F
Service Temp Range	Degree F	-10 F to 175 F
Thickness-	---	9 mils
Shelf Life	---	One year after shipment

## **Technical Data**

## **White Bond Tape**

DIVISION: 033000, 072600

### **5.0 INSTALLATION**

- All surfaces must be clean and dry.
- Overlap seam edges of VB-250, VB-350 or VBC-350 vapor barrier, using a minimum 6 inch vapor barrier seam overlap, then apply **Barrier-Bac White Bond Tape** centered over the overlap joint.
- Apply even pressure with a rubber roller to surface of seam tape and insure good initial adhesion.

### **6.0 AVAILABILITY & COST**

**Barrier-Bac White Bond Tape** is available nationwide through our network of building supply companies. Please contact our corporate office for a distributor in your area. Pricing may be obtained by contacting your local Barrier-Bac Products distributor or sales representative.

### **7.0 WARRANTY**

We warrant and guarantee our specifications as published. Published test results are based upon accepted industry practices as well as the test methods called for and listed on our test documents. We believe, to the best of our knowledge, that our published results are accurate, reliable and represent our white bond tape. Inteplast Group cannot control site conditions and improper installation practices. Therefore, no warranty, expressed or implied, is given, including those of merchantability, fitness for a particular purpose or any other matter with respect to the product.

### **8.0 MAINTENANCE**

No maintenance is required.

### **9.0 TECHNICAL SERVICES**

Technical services for all of our products may be obtained by contacting our corporate office

Corporate Office:  
(877) 535-0555

### **10.0 FILING SYSTEMS**

Barrier-Bac brochures are available from Barrier-Bac distributors, sales representatives, Inteplast Group, and our web site:

[www.BarrierBac.com](http://www.BarrierBac.com)



**INTEPLAST GROUP®**

OFFICE: 9 Peach Tree Hill Rd., Livingston, NJ 07039  
PLANT: 101 Inteplast Blvd., Lolita, TX 77971

TEL: 877-535-0555

FAX: 800-709-6002

E-MAIL: [info@BarrierBac.com](mailto:info@BarrierBac.com)

WEBSITE: [www.BarrierBac.com](http://www.BarrierBac.com) / [www.inteplast.com](http://www.inteplast.com)



# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Inteplast Group Corporation  
World-Pak Division  
101 Inteplast Boulevard  
Lolita  
Texas  
77971  
USA


Holds Certificate No:

**FM 35975**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Manufacture of Cross-laminated Polyolefin Film, Fluted Polyolefin Boards, and PVC Sheet at Lolita, Texas with Service to production units including Sales, Customer Service, and Purchasing at Livingston, NJ.

For and on behalf of BSI:

  
Carlos Pitanga, Chief Operating Officer Assurance – Americas

Original Registration Date: 1997-01-15

Latest Revision Date: 2018-08-06

Effective Date: 2015-11-02

Expiry Date: 2018-11-01

Page: 1 of 2



...making excellence a habit.™

This certificate remains the property of BSI and shall be returned immediately upon request.

An electronic certificate can be authenticated [online](http://www.bsigroup.com/ClientDirectory). Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory). To be read in conjunction with the scope above or the attached appendix.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.



Certificate No: **FM 35975**

Location	Registered Activities
Inteplast Group Corporation World-Pak Division XF Film Plant 101 Inteplast Boulevard Lolita Texas 77971 USA	Manufacture of Cross-laminated Polyolefin Film.
Inteplast Group Corporation World-Pak Division Profiles Plant 101 Inteplast Blvd. Lolita Texas 77971 USA	Manufacturer of Fluted Polyolefin Boards.
Inteplast Group Corporation World-Pak Division PVC Sheet Plant 101 Inteplast Blvd. Lolita Texas 77971 USA	Manufacture of PVC Sheet.

Original Registration Date: 1997-01-15

Latest Revision Date: 2018-08-06

Effective Date: 2015-11-02

Expiry Date: 2018-11-01

Page: 2 of 2

This certificate remains the property of BSI and shall be returned immediately upon request.  
An electronic certificate can be authenticated [online](http://www.bsigroup.com/ClientDirectory). Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory)  
To be read in conjunction with the scope above or the attached appendix.  
Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.



**INTEPLAST GROUP**<sup>®</sup>  
*World-Pak*

November 5, 2018

**Certificate of Origin**

To Whom It May Concern:

This is to certify that the following products are manufactured in our ISO 9001:2015 certified plant located in 101 Inteplast Blvd., Lolita TX 77971, United States of America.

- 1) Barrier-Bac VB-250 (11 mil) Class A Vapor Retarder.
- 2) Barrier-Bac VB-350 (16 mil) Class A Vapor Retarder.
- 3) Barrier-Bac VBC-350 (31 mil) Composite Class A Vapor Retarder.

Sincerely Yours,

Frank Chen, General Manager  
World-Pak XF  
Inteplast Group  
P: 877-535-0555  
F: 800-709-6002



## Successful Projects

From A to Z

Barrier-Bac is recognized as one of the best solutions to vapor moisture migration. It is widely used by architects and contractors across the country. This list is only a small sampling of many Barrier-Bac projects nationwide.

### Florida

PROJECT NAME: University of Florida Drama & Art Complex, Gainesville, FL  
ARCHITECT: Zeidler Grinnell Partnership, West Palm Beach, FL  
STRUCTURAL ENGINEER: Walter P. Moore, Tampa, FL  
CONTRACTOR: Eastern Construction, Inc.  
PRODUCT: Barrier-Bac VB-250(11 mil) 216,000 square feet

PROJECT NAME: Orange County Correctional Facility, Orlando, FL  
STRUCTURAL ENGINEER: BRPH, Architects & Engineers, Inc. Melbourne, FL  
CONTRACTOR: Baker Concrete Inc., Orlando, FL  
PRODUCT: Barrier-Bac VB-350(16 mil) 188,000 square feet

### Georgia

PROJECT NAME: Rabun County Primary School, Tiger, GA  
STRUCTURAL ENGINEER: Southern A&E, Austell, GA  
CONTRACTOR: Charles Black Construction Co., Cleveland, GA  
PRODUCT: Barrier-Bac VB-250(11 mil) 43,000 square feet

### Illinois

PROJECT NAME: Glenview Retirement Home, Glenview, IL  
ARCHITECT: Legat Architects  
CONTRACTOR: Schwendener Builders, Inc.  
PRODUCT: Barrier-Bac VB-250(11 mil) 168,000 square feet

PROJECT NAME: LINCOLN PARK COMMONS, CHICAGO, IL  
ARCHITECT: PAPPAGEORGE/HAYES ARCHITECTS  
CONTRACTOR: SCHWENDENER BUILDERS, INC.  
PRODUCT: BARRIER-BAC VB-250(11 MIL) 172,000 SQUARE FEET

### Kansas

PROJECT NAME: Brookridge Elementary School, Overland Park, KS  
STRUCTURAL ENGINEER: ACI/Frankiser Hutchens, Leawood, KS  
CONTRACTOR: Zimmer Construction, Overland Park, KS  
PRODUCT: Barrier-Bac VB-250(11 mil) 87,000 square feet

### Kentucky

PROJECT NAME: Bluegrass Chemical Agent-Destruction Pilot Plant, Richmond, KY  
CONTRACTOR: Bechtel National Inc., Frederick, MD  
PRODUCT: Barrier-Bac VB-250(11 mil) 300,000 square feet



## Successful Projects

From A to Z

### Louisiana

PROJECT NAME: Rosepine High School, Rosepine, LA  
STRUCTURAL ENGINEER: Charles Ladner & Associates, Lake Charles, LA  
PRODUCT: Barrier-Bac VB-250(11 mil) 146,000 square feet

### Mississippi

PROJECT NAME: North Mississippi Power Regional HQ, Olive Branch, MS  
STRUCTURAL ENGINEER: Fisher & Arnold, Memphis, TN  
GENERAL CONTRACTOR: Linkous Construction, Memphis, TN  
CONCRETE CONTRACTOR: Brooks & Mazzola, Collierville, TN  
PRODUCT: Barrier-Bac VB-250(11 mil) 50,000 square feet

PROJECT NAME: Southern Beverage Distribution Facility, Hattiesburg, MS  
ARCHITECT: Portman Architects, Atlanta, GA  
CONTRACTOR: N&W Construction Co., Inc.  
PRODUCT: Barrier-Bac VB-250(11 mil) 232,000 square feet

### New York

PROJECT NAME: Averill Park High School, Averill Park, NY  
ARCHITECT: Rhinebeck Associates, Inc.  
CONTRACTOR: Depaolo & Sons, Inc.  
PRODUCT: Barrier-Bac VB-250(11 mil) 152,000 square feet

PROJECT NAME: St. Luke's Hospital, New Harford, NY  
ARCHITECT: DeWolff Partners, Inc., Rochester, NY  
CONTRACTOR: Murnane, Inc., Whitesboro, NY  
PRODUCT: Barrier-Bac VB-350(16 mil) 177,000 square feet

### North Carolina

PROJECT NAME: Belk Store #412, Waynesville, NC  
STRUCTURAL ENGINEER: Artech Design Group, Chattanooga, TN  
CONTRACTOR: EMJ Corporation, Chattanooga, TN  
PRODUCT: Barrier-Bac VB-250(11 mil) 46,286 square feet

PROJECT NAME: Larchmont Apartment, Asheville, NC  
STRUCTURAL ENGINEER: Connelly Builders, Columbia, SC  
GENERAL CONTRACTOR: Connelly Builders, Columbia, SC  
CONCRETE CONTRACTOR: Ashmore Concrete, Columbia SC  
PRODUCT: Barrier-Bac VB-350(16 mil) 20,000 square feet

### South Carolina

PROJECT NAME: Florence County Middle School, Florence, SC  
STRUCTURAL ENGINEER: FW Architects, Florence, SC  
CONTRACTOR: Martin Engineering, White Rock, SC  
PRODUCT: Barrier-Bac VB-350(16 mil) 120,000 square feet



## Successful Projects

From A to Z

### Tennessee

PROJECT NAME: American Essoteric Laboratories, Memphis, TN  
STRUCTURAL ENGINEER: ETFC, Architects, TN  
CONTRACTOR: Kajima Construction Service, Memphis, TN  
PRODUCT: Barrier-Bac VB-250(11 mil) 90,000 square feet

PROJECT NAME: FedEx Hangar 21, Memphis, TN  
STRUCTURAL ENGINEER: Renaissance Architects, Lakeland, TN  
GENERAL CONTRACTOR: Linkous Construction, Memphis, TN  
CONCRETE CONTRACTOR: Brooks & Mazzola, Collierville, TN  
PRODUCT: Barrier-Bac VB-250(11 mil) 40,000 square feet

### Texas

PROJECT NAME: T&L Distribution Center, Houston, TX  
STRUCTURAL ENGINEER: Bay Architects, Webster, TX  
GENERAL CONTRACTOR: Angler Construction, Houston, TX  
CONCRETE CONTRACTOR: Cima Concrete Construction L.P, South Houston, TX  
PRODUCT: Barrier-Bac VB-350(16 mil) 121,000 square feet

PROJECT NAME: Houston Sports Arena, Houston, TX  
STRUCTURAL ENGINEER: Walter P Moore, Houston, TX  
CONTRACTOR: Capform, Inc.  
PRODUCT: Barrier-Bac VB-250(11 mil) 306,000 square feet

### Virginia

PROJECT NAME: Kellam High School, Virginia Beach, VA  
ARCHITECT: HBA Architecture & Interior Design, Virginia Beach, VA  
CONTRACTOR: S. B. Barllard Construction Co., Virginia Beach, VA  
PRODUCT: Barrier-Bac VB-350(16 mil) 272,000 square feet

PROJECT NAME: James Monroe High School, Fredericksburg, VA  
ARCHITECT: Moseley Architects Inc., Richmond, VA  
PRODUCT: Barrier-Bac VB-350(16 mil) 172,125 square feet

### Washington

PROJECT NAME: University of Washington Student Housing, Seattle, WA  
ARCHITECT: Mahlum Architects, Seattle, WA  
CONTRACTOR: W.G. Clark Construction, Seattle WA  
PRODUCT: Barrier-Bac VB-350(16 mil) 30,000 square feet