



# Introducing HANNO

April 2019

- **HANNO History & Core Competences**
- **Window & Facade Joint Sealing Tapes**
  - **Hannoband BG1 / 600** (exterior joint sealing tapes)
  - **Hannoband 3E** (multi-functional tapes)
  - **Hannoband THERM** (thermal insulation tape)
  - **DUO- / FI- / FA-Easy Flashing Tapes**
- **ACM Panel Application**
  - **Installation Cost Comparison BG1 vs. Caulking**

## Hidden Talents

### **HANNO – Your Specialist in Joint Sealing and Sound Insulation**

Hanno Werk GmbH & Co. KG, based in Laatzen near Hanover, Germany, is **specialized in the development and manufacturing of innovative construction joint sealing products** as well as **industrial sealants and sound insulation products** for the automotive, mechanical engineering industry and to improve room acoustics.

The product range comprises the wellknown **Hannoband®** tape range to seal window and facade joints as well as precise foam **stamping parts**, efficient **sound absorbing foam panels** to improve room acoustics and also **special solutions** e.g. to seal cable openings in raised floors of data centers.



# HANNO – Success Story

# HANNO – Success Story



1895      Founded by Max Mehlhardt

1945 – 1962    Development stages



HANNO  
1960



## Complete Move to New Site in Laatzen



2014

Only one site with further expansion possibilities





# The HANNO-VITO GROUP

Strong. International. Diverse.



#### **HANNO-VITO-GROUP**

- Privately owned
- About 350 employees
- Sales in excess of 65 million €

#### **HANNO Germany**

- Core competences: Impregnation, soundproofing, anti-drumming
- Excellent rating
- Good market position and continuous growth in recent years
- Product innovations and patents
- Integrated management system, process oriented
- IATF 16949 certified with environment management acc. Iso 14004

## Research and Development



### Absolute quality and safety are our standard

- HANNO is certified in compliance with quality management system IATF 16949. The standard DIN EN ISO 9001 is integrated in this system.
- Regular internal and externally-monitored quality controls and audits
- The in-house research & development team implements our customer requirements and developments innovative products with a high performance level



## Locations



### Germany

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info@vito-irmene.de  
www.vito-irmene.de

## References



**B. Braun Melsungen AG,**  
Melsungen, Germany

**Hanno®-Flashing Tapes**



**Hochhaus Het Strijkijzer**  
Den Haag, Netherlands

**Hannoband®-BG1**



**Actelion Business Center**  
Allschwil, Switzerland

**Hannoband®-BG1**



**Hahne's Building**  
Newark, NJ, USA

**Hannoband®-BG1**



**Le Belvedere**  
Quebec, Canada

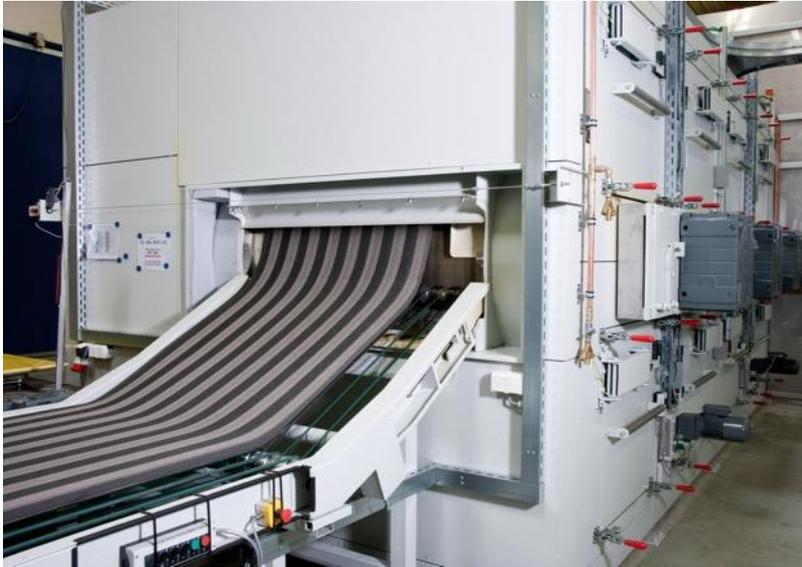
**Hannoband®-3E**

→ Experience regarding construction joint sealing gathered in more than 40 countries with various climate zones

The background is a solid teal color with several abstract, overlapping geometric shapes in a lighter shade of teal. These shapes are elongated and have rounded corners, resembling stylized letters or blocks. They are arranged in a way that creates a sense of depth and movement, with some appearing to be in front of others.

# HANNO Core Competences

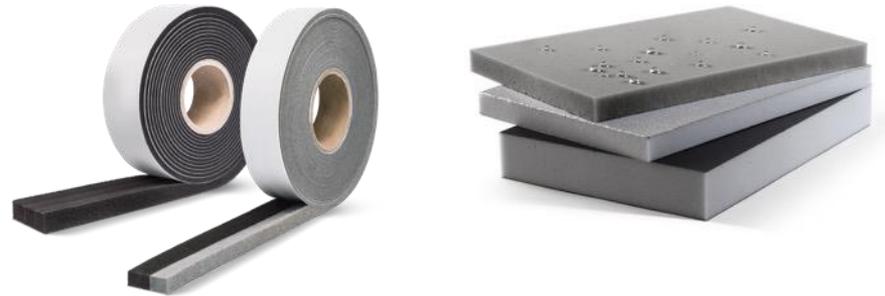
## Impregnation of Foam



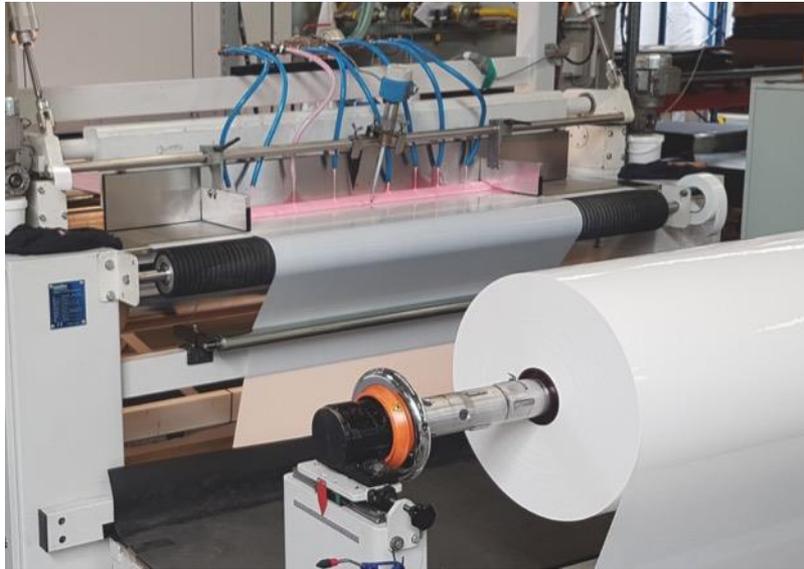
Decades of Experience in Foam Impregnation with Several Granted Patents:

EP 2655775 B1 ; US 9,732,853 B2

Additional patents pending.

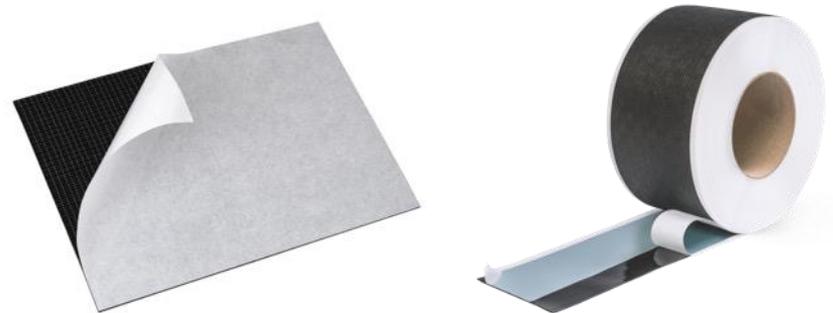


## Adhesives Used for Foam Products and Tapes

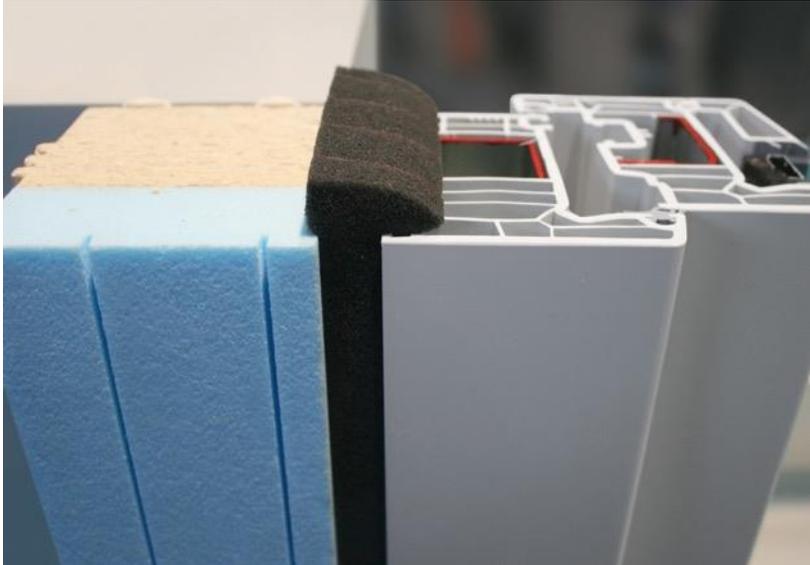


Adhesives production at own facilities – ca. 3 million sqm p.a.

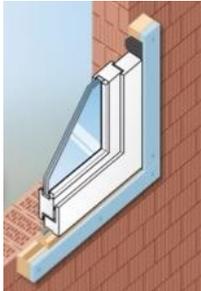
Patent: EP2692959 B1



# Hanno® Front-wall Installation System



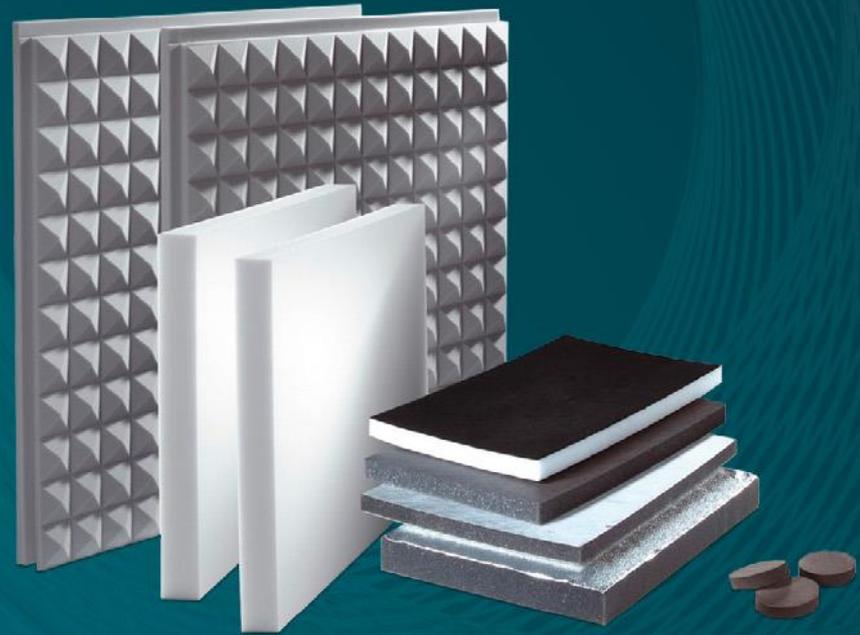
The solution in the insulation level



# Hanno® Sealing Materials, PU Foams and Adhesives

Forward-thinking quality developed in Austria





# Hanno<sup>®</sup> Industrial Products

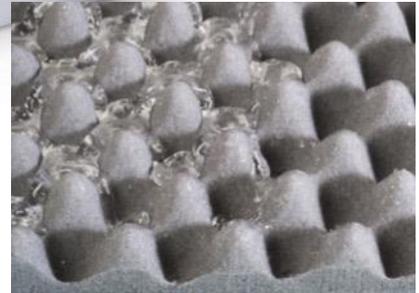
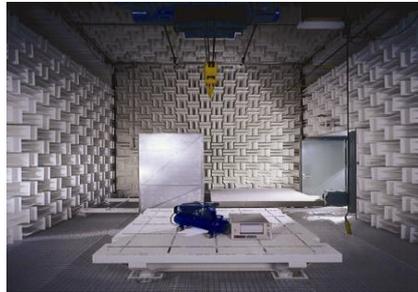
**Soundproofing, Thermal and Vibration Insulation**

## Hanno®-Tect – Versatile Lightweight



Good soundproofing and thermal insulation,

also available in hydrophobic / oleophobic models



## Hanno® Foam – Whispering High-Performance



Soundproofing and anti-drumming



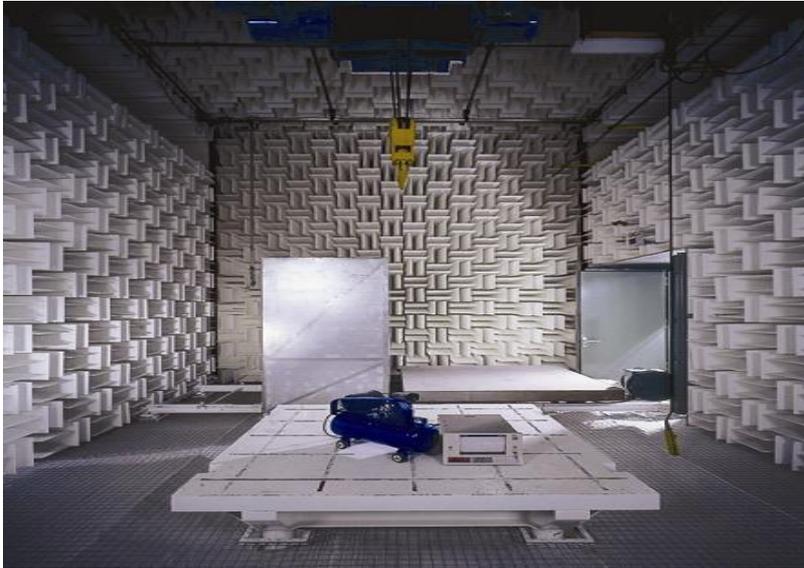
# Hanno® Protecto – Dampens all Sound Sources



Renewable energies



## Hanno®-Tect Structural Plates and Splitter Absorber



Room acoustics – from intelligibility through to free field conditions



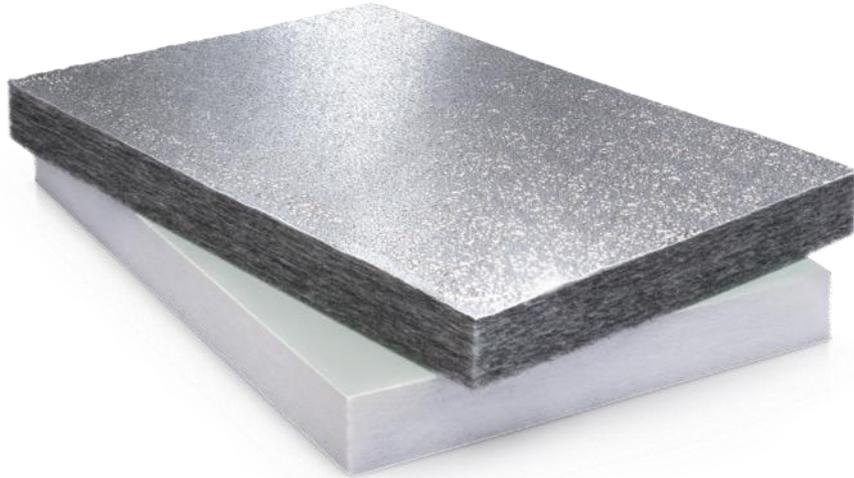
# Hanno®-Redusoft – Insulates and Steams to Ensure a Relaxed Arrival



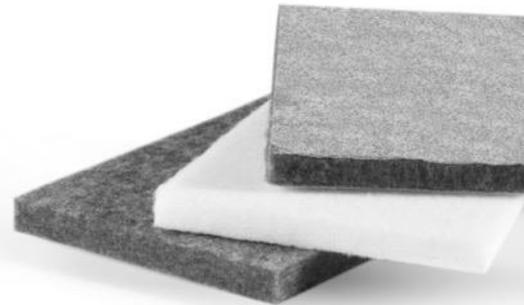
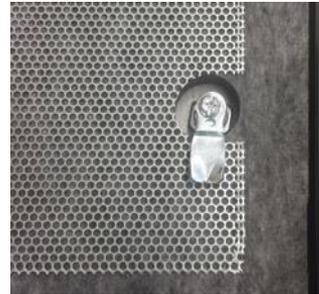
Automotive and rail vehicles



## Hanno®-Fiber – Excellent Soundproofing and Thermal Insulation



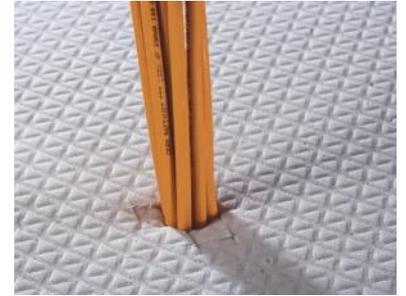
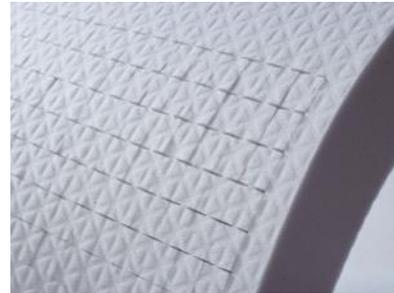
Comprises a special polyester fleece, also available in hydrophobic / oleophobic models



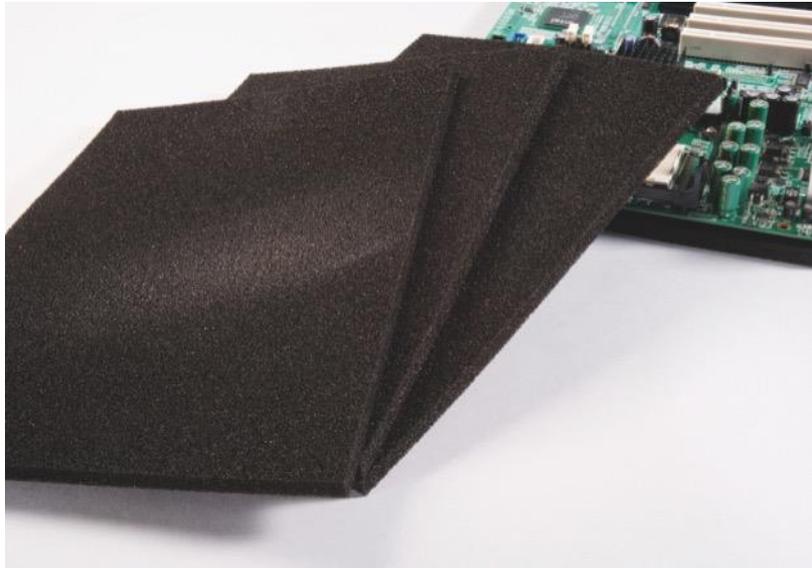
## Hanno® Clima-Tect® – No Cool Breezes in the Wrong Place



Energy savings in computer centres



## Hanno® Foam EL – Against Electrostatic Phenomena

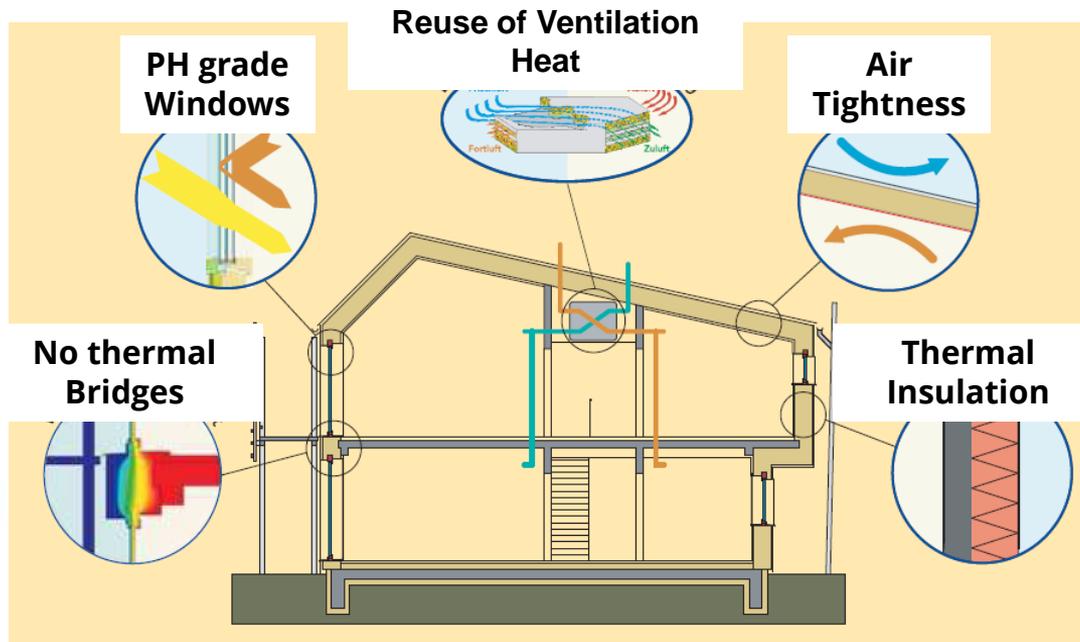


Transport protection for high-quality electronics

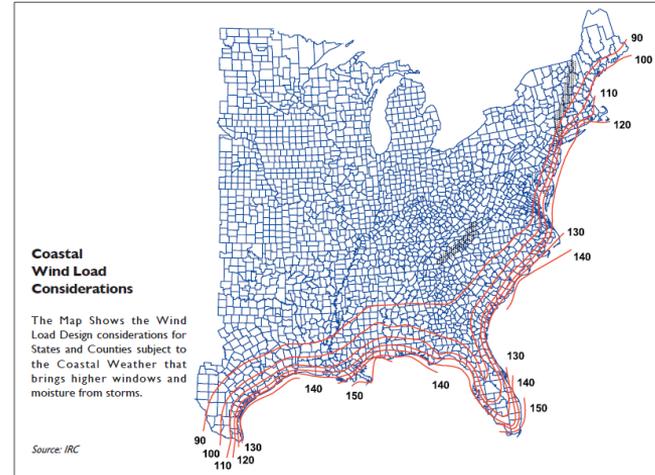


A photograph of a modern building facade at night. The building features a long row of large, multi-paned glass windows on the left side, which are illuminated from within, showing a bright interior with wooden ceiling panels and recessed lighting. To the right of the windows, the facade is covered in vertical wood slats. The sky is a deep blue, and the foreground shows a green lawn and a small tree. A dark teal banner with white text is overlaid across the middle of the image.

# Window & Facade Joint Sealing



- > Drastic increase in building efficiency requirements - joint sealing quality has to go in-line with it!
- > "Near Passive House" level will become the new standard in the EU and needs to be planned properly



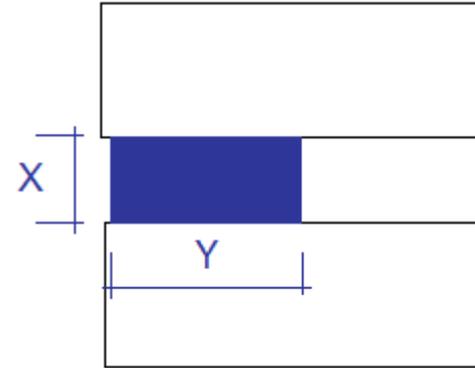
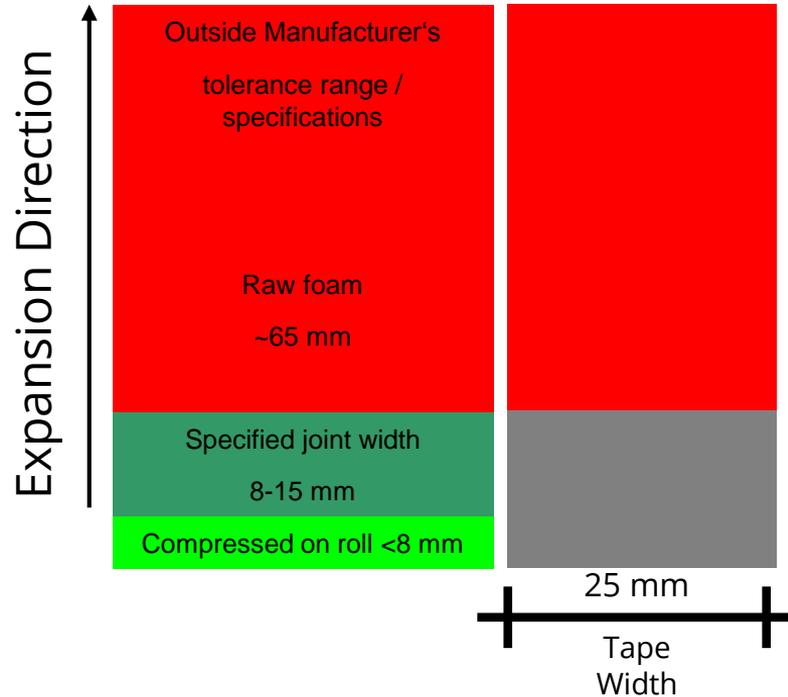
- Climate zones to be considered:
- protection against wind and rain loads
  - annual temperature ranges and humidity levels
- **moisture-adaptive** products becoming more relevant



# HANNOBAND BG1 – Description & Applications

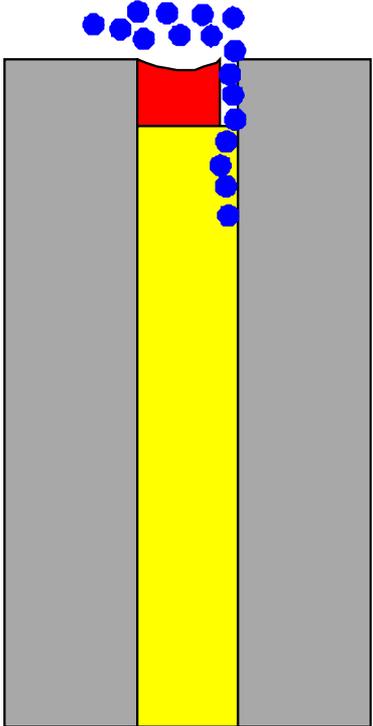


What do the HANNOBAND Tape Dimensions – e.g. „25 / 8-15“ - refer to?



Y = 25 mm – Joint Width (1")

X = 8-15 mm – Joint Depth (5/16-5/8")



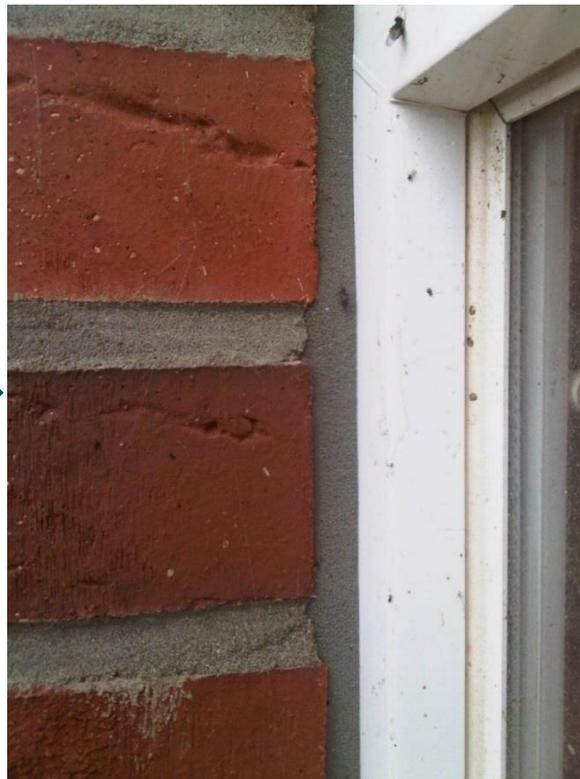
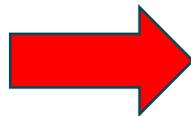
Water penetration from the exterior



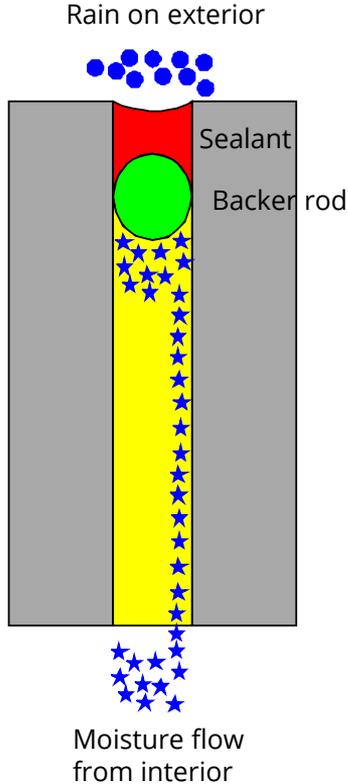
Typical US window installation – „Caulk & Walk“



Caulking over caulking over caulking after ...



Joints need to be properly sealed yet be aesthetic - clean and durable with Hannoband!



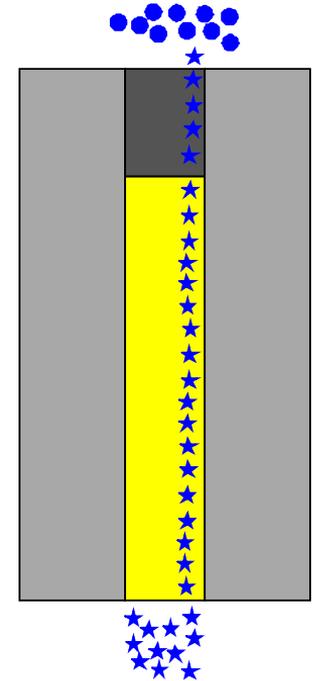
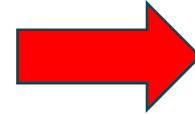
## Caulking vs. Hannoband BG1

No water penetration from the exterior, BUT:

- proper preparation and cleaning of joint necessary
- plenty of high quality caulk has to be used
- backer rod to be placed behind caulk
- primer to be applied to surrounding wall

Risk that vapor penetrates joint insulation from the interior and accumulates in front of the backer rod because it is vapor-tight

- insulation becomes wet
  - reduced insulation functionality and mold may develop
- construction damages are likely to happen over time





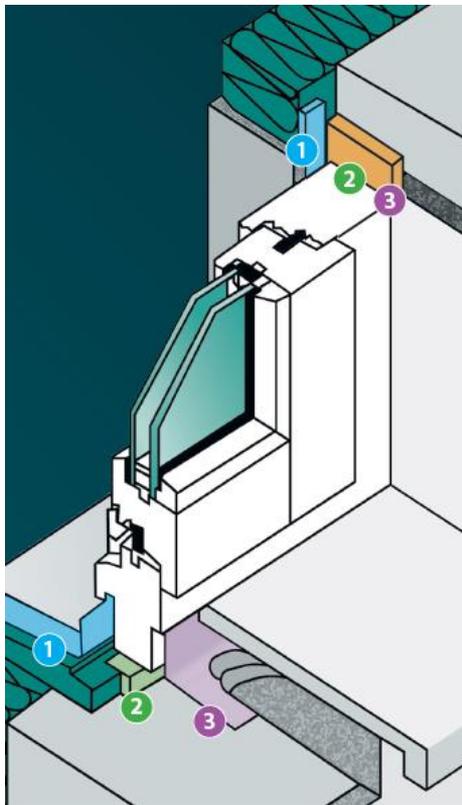
HANNOBAND BG1 10 years after installation in concrete wall.

Large 2" / 5cm joints sealed with double layer of BG1 tape.



HANNOBAND BG1 application from the exterior (Hahne's Building, Newark, NJ)

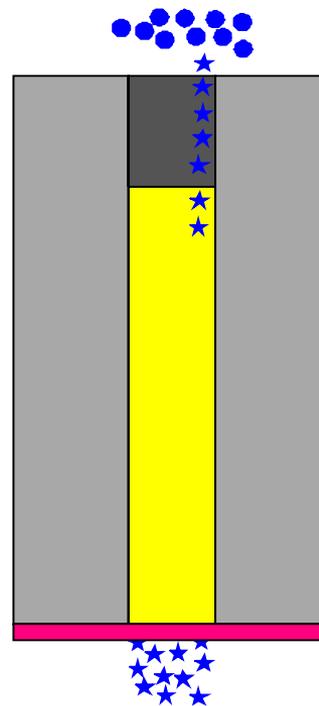
## „3-Layer System“



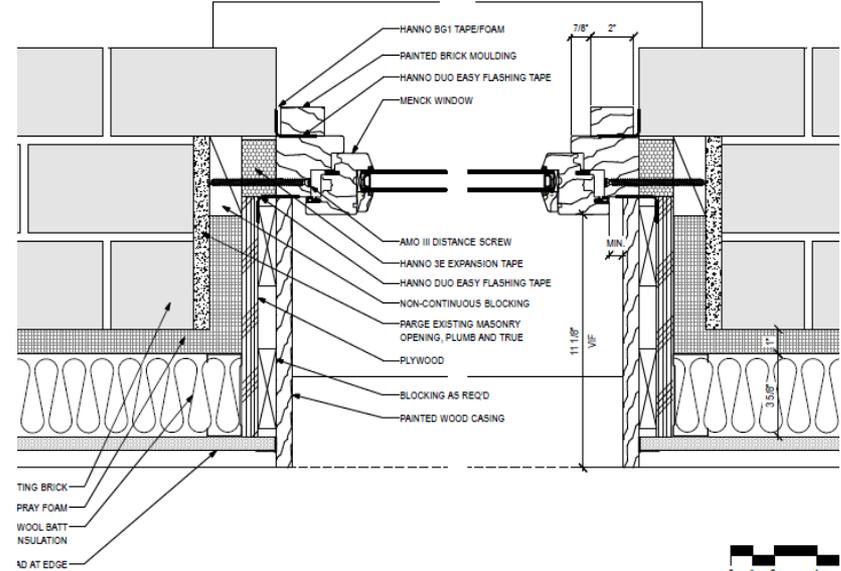
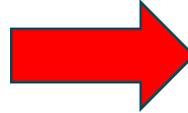
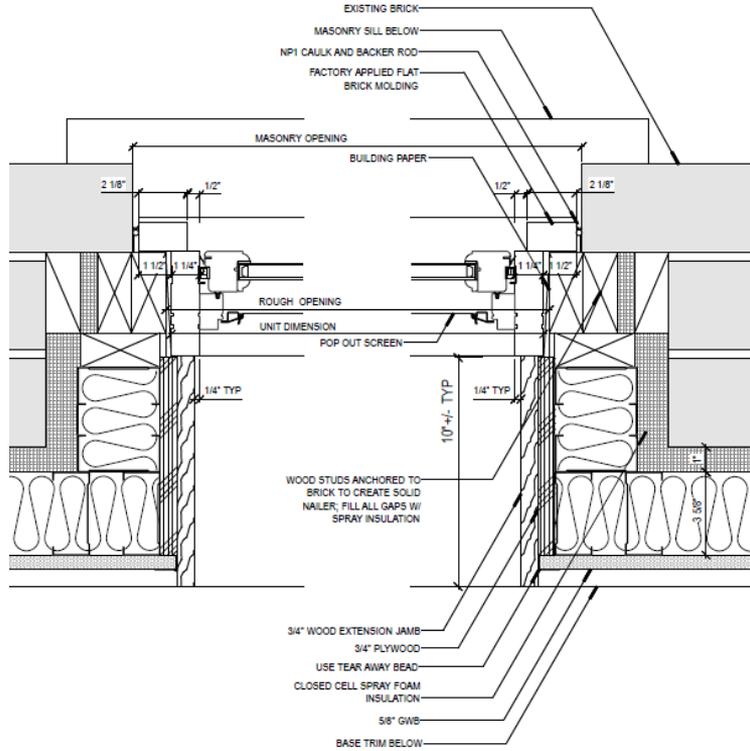
1. Exterior: Rain & UV resistance; vapor open

2. Center: Thermal & Sound Insulation

3. Interior: Airtightness



Rain (1) & air (3) barrier; thermal insulation (2); moisture management; sustainability; durability; quick & clean installation



Support provided to integrate HANNO-products into technical drawings.

Hannoband	BG1 (XL)	600 (XL)
Building Class	BG1	BG1
Fire Rating	B1 (flame retardant)	B1 (flame retardant)
Product Design	Maximum protection	Standard protection
Vapor diffusion thickness	Sd-value < 0.5 (vapor open)	Sd-value < 0.5 (vapor open)
Available Colors	Black / grey (XL) / light grey	Black, grey (XL)
Driving rain tightness	> 600 Pa	> 600 Pa
Joint air permeability (m <sup>3</sup> / h m d Pa) 2/3	a < 1.0	a < 1.0
Direct weathering (incl. Sun / UV resistance)	Yes <b>Certified &gt; 15 years</b>	Yes
Thermal conductivity (W/mK)	$\lambda < 0.0412$	$\lambda < 0.0412$
Sound insulation index	42 dB unplastered; 2 layers: 59dB possible	
Shelf life	24 months	18 months
Emissions (VOC's)	EMICODE EC 1 Plus – extremely low emissions	

## Hannoband BG1 - Proven & certified durability for more than 15 years

### Certificate

2009.1115



We hereby confirm that the

### Joint Sealing Tape „Hannoband®-BG1“

produced by  
Hanno Werk GmbH & Co. KG  
Hanno-Ring 5  
30880 Laatzen  
Germany

according to the test results of „Materialprüfanstalt für Werkstoffe und Produktionstechnik“ and „Materialprüfanstalt für das Bauwesen“ in compliance with DIN 18542: 2009 accomplished tests

is

**resistant to weathering over 15 years  
outside weathering in a wall joint**

In the annex the requirements are compared with the test results

Garbsen, 11/10/2011

RD Dr.-Ing. Seidel  
Geschäftsführer



Materialprüfanstalt für Werkstoffe  
und Produktionstechnik  
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Landesbetrieb gemäß  
§ 24 Nds. LHO

Werkland:  
Prof. Dr.-Ing. Bernd-Almo Behrens, - Sprecher  
Dr.-Ing. Andreas Krieger - Geschäftsführer  
Dr.-Ing. Hans-Joachim Seidel - Geschäftsführer

### Annex

to  
Certificate  
2009.1115

### Fugendichtungsband „Hannoband®-BG1“

#### Test Specimen:

Hannoband BG1 was installed 1984 in joints of a cellular concrete wall. The sealed joints were faced south with their open side. The wall was built upright.

According to DIN 18542:2009 a test with an overall radiant power of 240 MJ/m<sup>2</sup> is demanded. The tests were performed after an effective day light dose of about 64000 MJ/m<sup>2</sup>.

#### Tests:

2003: Materialprüfanstalt für Werkstoffe und Produktionstechnik 853.0519-1\*  
2009: Materialprüfanstalt für Werkstoffe und Produktionstechnik 2009.1115\*  
2010: MPA für das Bauwesen: 101950\*\*

#### Test Results:

According to DIN 18542:2009

	Test Criterion	Requirement	Result
Pkt. 6.1**	Air Tightness	a < 1	fulfilled
Pkt. 6.2**	Driving Rain Tightness	> 600 Pa	fulfilled
Pkt. 6.5*	Resistance to light and humidity influence.	>bmax	fulfilled
Pkt. 6.6*	Compatibility to adjoining construction materials	no effects	fulfilled

Garbsen, 11/10/2011

RD Dr.-Ing. Seidel  
Geschäftsführer

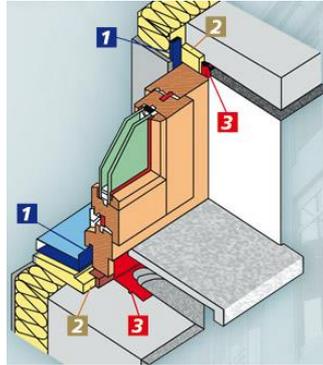




# Additional HANNO Tapes

# 3-Layer Sealing

HANNOBAND BG1 - Exterior [1]



HANNO Duo Easy - Interior [3]



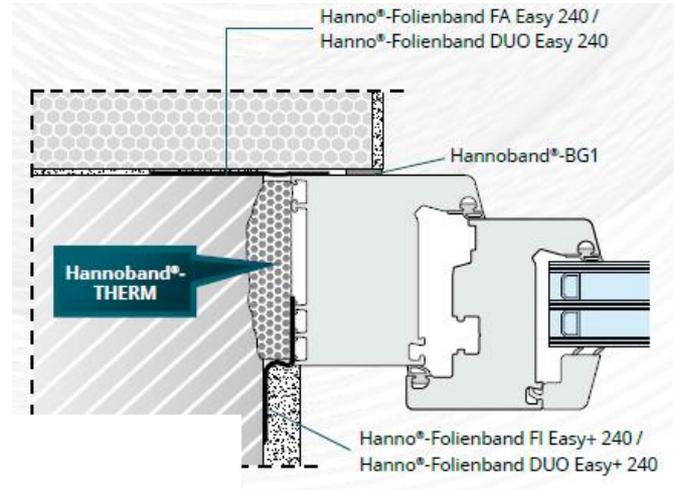
How to seal the Thermal Layer [2]



## ...looking for an alternative to this option?



...have a closer look at Hannoband THERM then:



### **HANNOBAND THERM**

Provides thermal insulation for joints up to 1 5/8" (40 mm) width. Quick, clean and sustainable (hardly any VOC's)!

# Innovative „All-in-One“ Triple Layer Sealing

HANNOBAND BG1 – Exterior



THERM – Thermal Layer



HANNO Duo Easy – Interior



or 

**HANNOBAND 3E (BG1) with concealed patented moisture-variable membranes**



- Exterior: rain tight (impregnation)
- Center: thermal insulation (foam)
- Interior: air tight (membranes)
- Excellent sound insulation – 58dB

Hannoband	3E BG1	3E BASIC BG1	3E	3E BASIC
Stress Group DIN 18542:2009	<b>BG1 / BGR</b>	<b>BG1 / BGR</b>	BG2 / BGR	BG2 / BGR
Fire Behaviour DIN 4102 / DIN EN 13501	<b>B1 + E</b>	<b>B1</b>	E	E
Direct weathering (UV/sun)	<b>Yes</b>	<b>Yes</b>	No	No
Product Design	Min. 2 membranes	Min. 1 membrane	Min. 2 membranes	Min. 1 membrane
	Moisture-variable	Moisture-variable	Moisture-variable	Moisture-variable
	Extended joint sealing range		For concealed applications	For concealed applications
Color	Anthracite	Grey	Anthracite	Grey
Installation	No specific interior side	No specific interior side	No specific interior side	No specific interior side
Driving rain tightness	> 1,050 Pa	> 600 Pa	> 1,050 Pa	> 600 Pa
Joint air permeability	$a < 0.1$ (m <sup>3</sup> / h m d Pa) <sup>2/3</sup>	$a < 0.1$	$a < 0.1$	$a < 0.1$
A-value system test <0,05 target for PASSIVE HOUSES	<0.05 at 50 Pa			
Thermal conductivity	$\lambda < 0.0428$	$\lambda < 0.0428$	$\lambda < 0.0428$	$\lambda < 0.0428$
Sound insulation index	58 dB unplastered	( 53 dB unpl. )	58 dB unpl.	( 53 dB unpl. )
Shelf life	12 months			
Emissions (VOC's)	EMICODE EC 1 Plus – extremely low emissions			





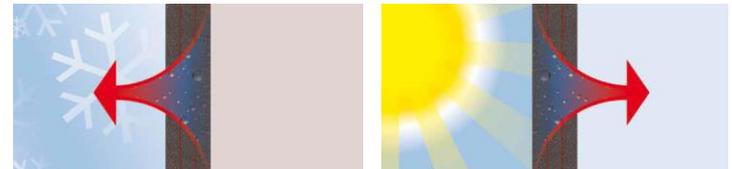




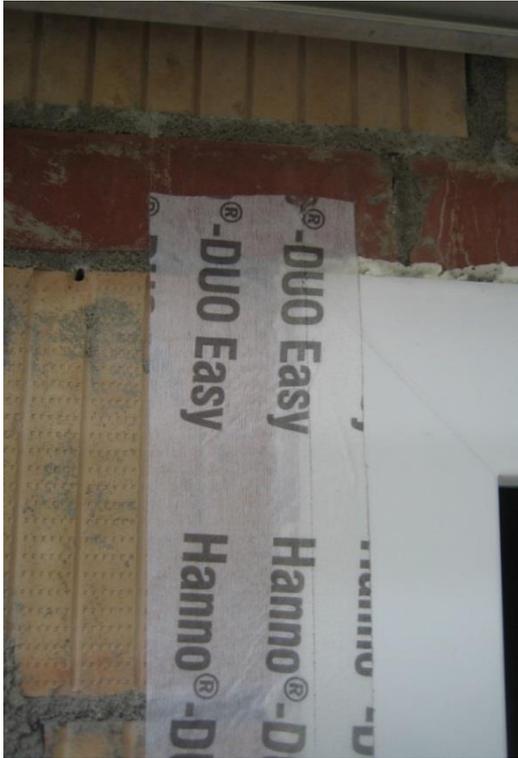
# HANNO Flashing Tapes

## DUO Easy 240 Specifications

Fiber-/Foil Composition		Combination of PET-fleece and PA-foil
Adhesive		Acrylate based
Weight	EN 29073-1	ca. 400 g/m <sup>2</sup>
Thickness	EN 29073-1	ca. 0,65 mm
Acceptable Distortion		5%, related to the not adhered tape width (a noose or movement reserve may be necessary during installation).
Airtightness	EN 1026 ASTM E283	$a_n \leq 0,1 \text{ m}^3/\text{h m dPa}$ 0,003 l/sm (100 Pa) (0,002 cfm/ft (2 psf) 0,003 l/sm (300 Pa) (0,002 cfm/ft (6 psf)
Driving Rain Tightness System Joint	EN 1027 ASTM E331/E547	>1050 Pa (22 psf) >900 Pa (19 psf)
Foil Water Penetration Resistance	EN 1928	passed
Resistance against Water Penetration	EN 13984	W1
Sd-Value Foil	EN 1931/ EN 12572 ISO 12572	$0,48 \leq s_d \leq 12,0 \text{ m}$ (moisture-variable) $1170 \leq \mu \leq 23870$
Fire Protection Classification	EN 13501	Class E - normal flammability, basic fire safety
Emissions	EMICODE® ISO 16000	EC1 <sup>plus</sup> very low Emissions – no VOCs detected
Plastering Properties		Excellent
UV-Stability		3 months
Temperature Resistance		-40°C to +80°C (-40°F to 176°F)
Installation Temperature Range		+5°C to +30°C (41°F to 86°F) Installation possible down to -10°C (14°F); Avoid any release film e.g. caused by humidity, ice or frost
Shelf Life		12 months, dry, at room temperature in original packaging



**„Moisture Variable“**



HANNO DUO Easy 240  
No primer needed

## HANNO FA Easy 240 for Exterior Joints



In general no  
primer needed!

- Full surface adhesive
- Fleece combination **open to vapor diffusion**
- For driving rain tight connections  $\geq 600 \text{ Pa}$  (**12.5 psf**)
- Watertight acc. to DIN EN 13984 W1
- **12 months** resistance to ultraviolet radiation (UV)
- Slit liner for easy peel off
- Can be plastered over
- EC 1 Plus certified (very low VOC level)

## HANNO FI Easy 240 for Interior Joints



- Full surface adhesive
- **Air-tight** and diffusion-inhibiting: **sd-value > 10 m**
- slit liner for easy peel off
- Can be plastered/rendered over
- EC 1 Plus certified (very low VOC level)

FLASHING TAPE RANGE



	<b>HANNO DUO Easy 240</b>	<b>HANNO DUO Easy 240 N</b>	<b>HANNO DUO Easy 180 N</b>	<b>HANNO FA-Easy 240</b>	<b>HANNO FI Easy 240</b>
Application	<b>Interior &amp; exterior</b>	<b>Interior &amp; exterior</b>	<b>Interior &amp; exterior</b>	Exterior	Interior
Adhesive	<b>240 g/m<sup>2</sup> Repositionable &lt;30min</b> One side full surface	<b>240 g/m<sup>2</sup> Instant tack</b> One side full surface	<b>180 g/m<sup>2</sup> Instant tack</b> One side full surface	<b>240 g/m<sup>2</sup> Instant tack</b> One side full surface	<b>240 g/m<sup>2</sup> Instant tack</b> One side full surface
Rain Tightness / Water column	> 1.050 Pa	> 1.050 Pa	> 1.050 Pa	>1.050 Pa	-
Vapor diffusion thickness	<b>0.48 ≤ sd ≤ 12 m Moisture-adaptive</b>	<b>0.6 ≤ sd ≤ 20 m Moisture-adaptive</b>	<b>0.6 ≤ sd ≤ 20 m Moisture-adaptive</b>	sd <1m	sd >10m
UV resistance	3 months	<b>12 months</b>	<b>12 months</b>	<b>12 months</b>	-
Primer	In general not necessary	In general not necessary	Only in case of insufficient load- bearing; testing recommended	Only in case of insufficient load- bearing; testing recommended	Only in case of insufficient load- bearing; testing recommended

## Why HANNO?

- Construction joint sealing experience for more than 60 years with Hannoband BG1
- Uncompromised product quality & durability
- Product combinations available to address almost any possible joint sealing application
- USP's:
  - **Moisture-adaptive products** such as DUO Easy flashing tapes and Hannoband 3E multi-functional tapes are suitable for North American climate conditions from Miami to Minneapolis
  - Hannoband BG1 is the only compressed tape having been **hurricane tested** by ATI based on the Miami-Dade pressure protocol and beyond (up to 187psf)
  - Hannoband 3E: Extremely **sound absorbing** – 58dB without additional products
- Future proof product portfolio
  - Complies with tough European building regulations
  - Hannoband BG1 & 3E are approved building products in Google's PORTICO system
  - Basically no VOC's – EMICODE EC1 Plus rated
  - ASTM standards are met for compressed tapes BG1 & 3E

# Hanno<sup>®</sup>-3-Layer Joint Sealing System

## The Hanno<sup>®</sup>-3-Layer Joint Sealing System

The products of the Hanno<sup>®</sup>-3-Layer System leave nothing to be desired. Either as product combination or as all-in-one solution – HANNO enables you to meet all demands. Passive house compliance included!\*

\*certified by BBS Institute, Wolfenbüttel

### Exterior Layer ①

Driving Rain Tightness

Hannoband<sup>®</sup>-BG1, Hanno<sup>®</sup>-Flashing Tape FA Easy or DUO Easy (moisture variable)



### Functional Layer ②

Thermal/Sound Insulation

Hannoband<sup>®</sup>-THERM



### Interior Layer ③

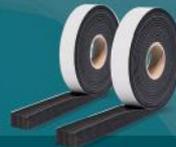
Air Tightness

Hanno<sup>®</sup>-Flashing Tape FI Easy or DUO Easy (moisture variable)



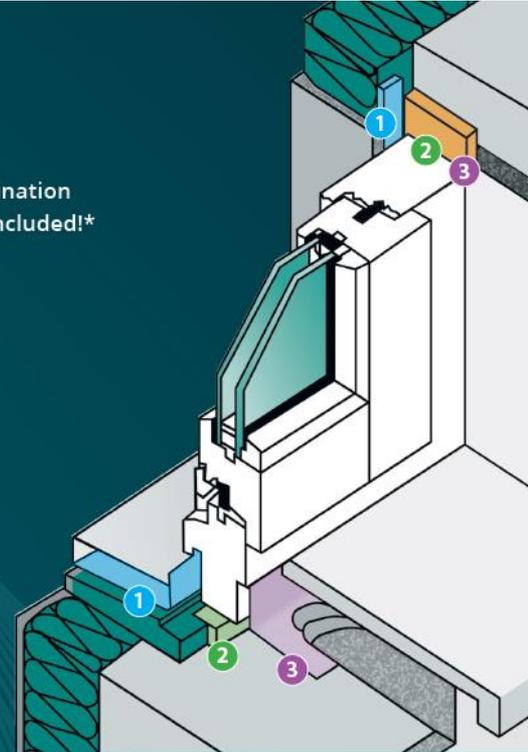
Alternatively our moisture-variable “all-in-one” multi-functional tape can be used:

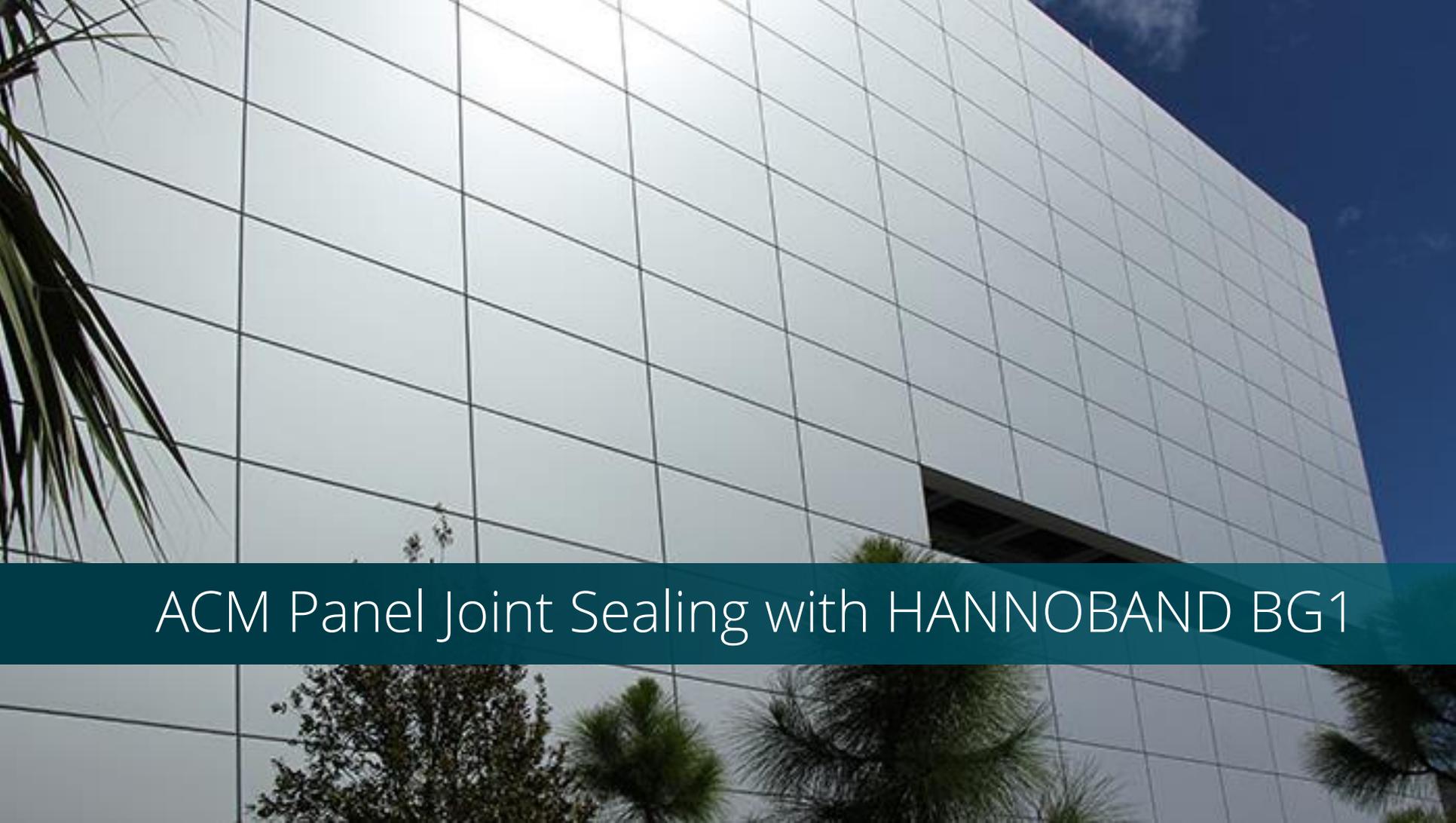
• Hannoband<sup>®</sup>-3E/3E BG1



3E BG1: ① ② ③

3E: ② ③

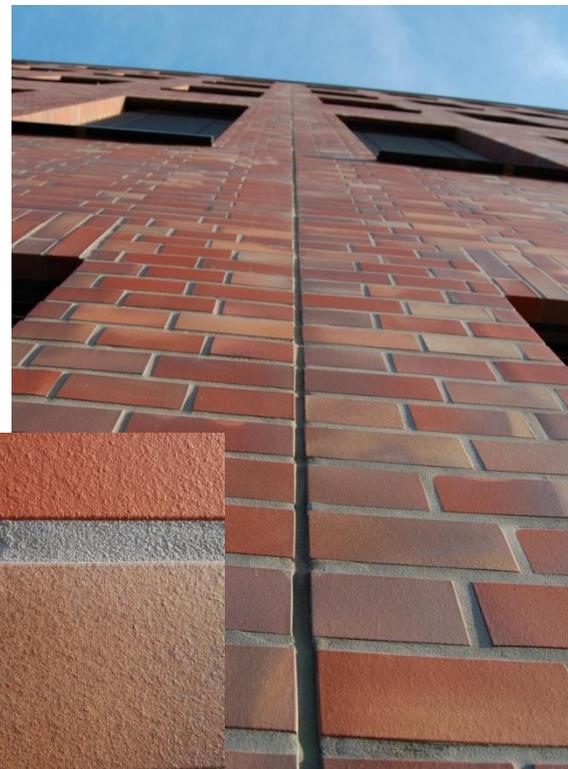




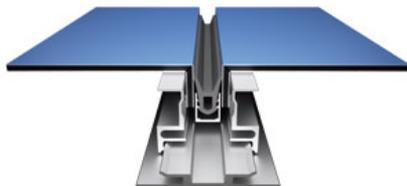
# ACM Panel Joint Sealing with HANNOBAND BG1



## Façade joints



## GFM



### Dry Gasket System

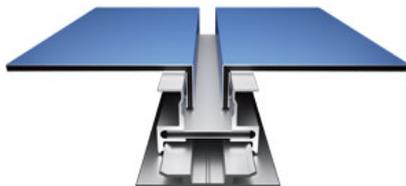
- Hard silicone gasket joints; gasket snaps into a U-channel
- 1/2" deep open reveal
- 5/8" joint width
- Aesthetically pleasing appearance

 [System Details](#)

 [Testing Certificate](#)

 [System Video](#)

## RFM



### Rainscreen System

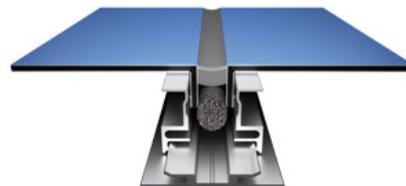
- Pressure equalized system
- 1" deep open reveal 5/8" joint width
- Reveal strip can be supplied in matching or contrasting colors
- Cost effective

 [System Details](#)

 [Testing Certificate](#)

 [System Video](#)

## CFM



### Wet Caulking System

- Wet sealed joints with exposed silicone
- Flush reveal 5/8" joint width
- Watertight
- Wide variety of caulking colors available

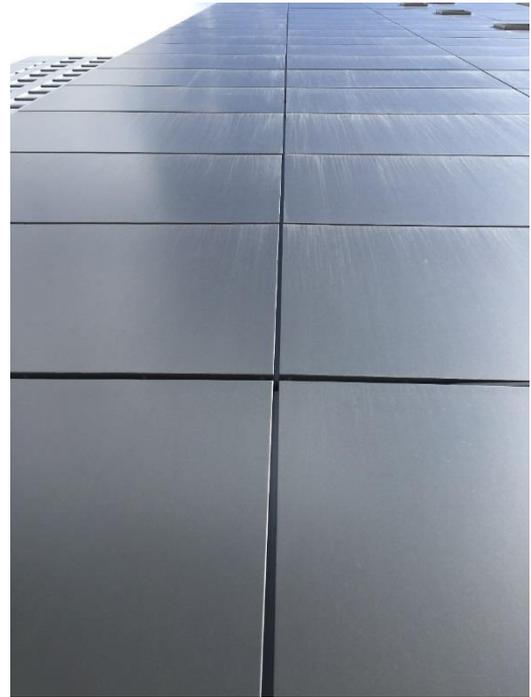
 [System Details](#)

 [Testing Certificate](#)

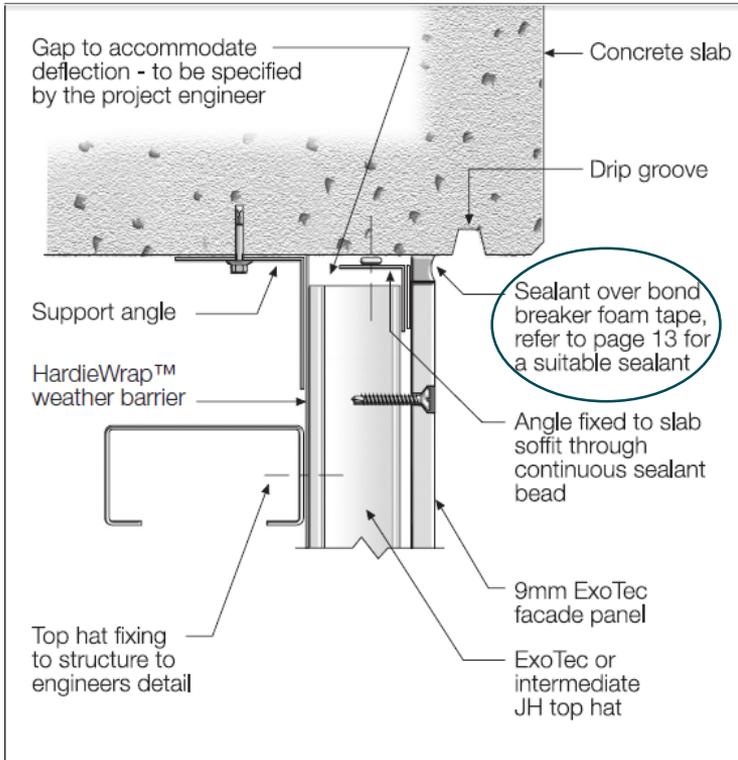
 [System Video](#)

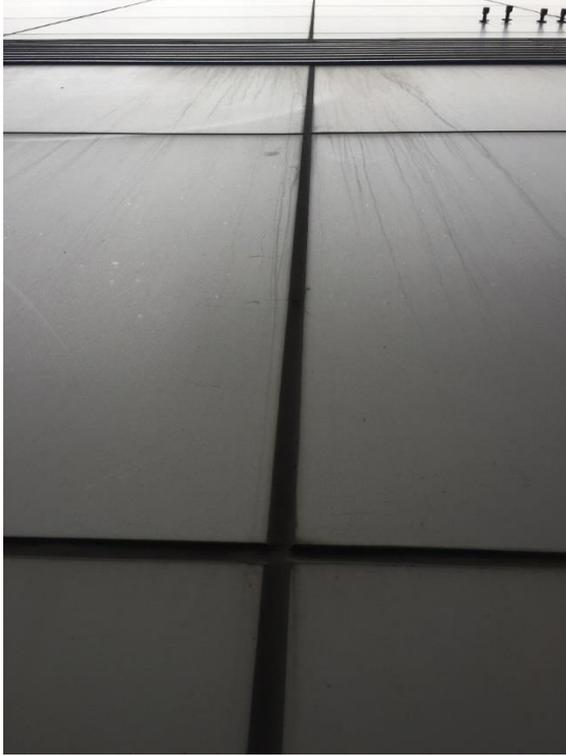


ACM PANEL JOINT SEALING



**Rainscreen System**





**TEST REPORT**

Report No.: E1117.02-109-44

**Rendered to:**

FAIRFIELD METAL, LLC  
Fairfield, New Jersey

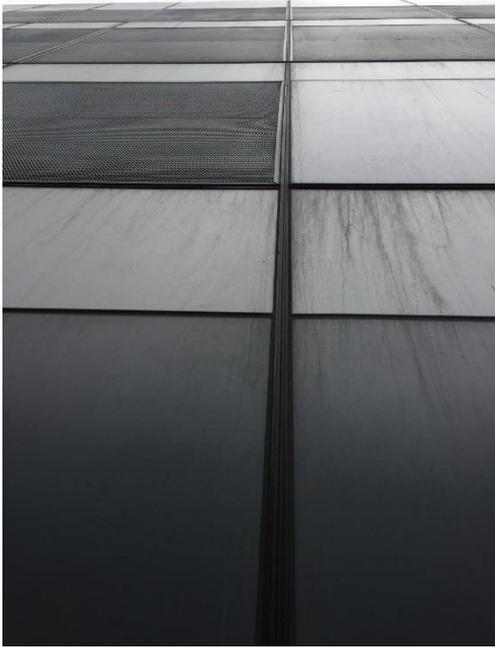
**PRODUCT TYPE:** ACM Panel System (Wet Seal)  
**SERIES/MODEL:** ECONNECT-Z

Title	Summary of Results
Design Pressure	+3840 Pa (+80.20 psf) -1920 Pa (-40.10 psf)
Air Infiltration	<0.1 L/s/m <sup>2</sup> (<0.01 cfm/ft <sup>2</sup> )
Water Penetration Resistance Test Pressure	720 Pa (15.04 psf)

Wet System Examples



Wet System Example

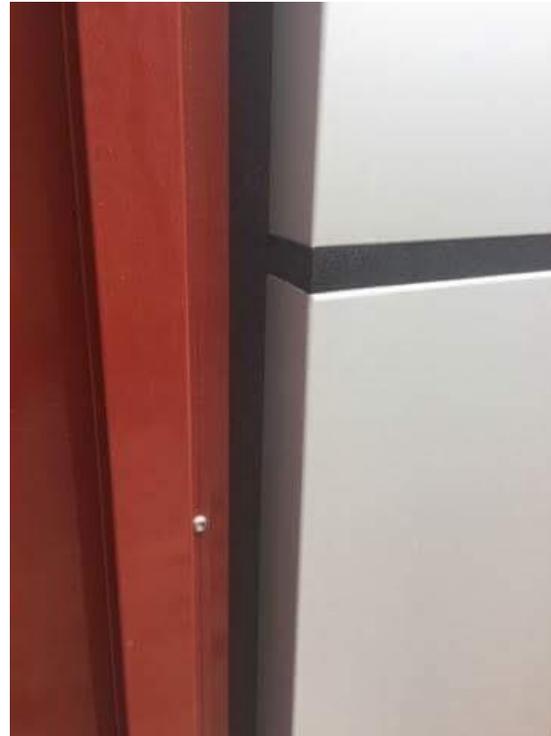


Dry Gasket System Example



Hannoband BG1 for a  
clean,  
durable,  
sustainable and  
economic  
joint sealing!







Hurricane loads testing based on  
 „Miami Dade County“ protocol:  
 Water Pressure 21,93 psf  
 Structural Loads 187,97 psf



#### TEST REPORT

Report No.: C3835.02-109-44

Rendered to:

HANNO-WERK GMBH & CO. KG  
 Laatzen, Germany

HANNO-VITO CORP.  
 New York, New York

PRODUCT TYPE: Compressed Foam Tape  
 SERIES/MODEL: Hannoband BG1 30/12 (1-1/5" / 1/2")

Title	Summary of Results
Design Pressure	±3602 Pa (±75.24 psf)
Air Infiltration @ 1.57 psf	0.4 m <sup>3</sup> /hr/m (0.08 cfm/ft)
Air Infiltration @ 6.24 psf	1.8 m <sup>3</sup> /hr/m (0.33 cfm/ft)
Water Penetration Resistance Test Pressure	541 Pa (11.29 psf)
Water Penetration Resistance Test Pressure	900 Pa (18.80 psf)
Water Penetration Resistance Test Pressure	1050 Pa (21.93 psf)
Uniform Load Structural Test Pressure	±5403 Pa (±112.85 psf)

## HANNOBAND – DESCRIPTION & APPLICATION

Title of Test	Results	Observation
<b>Air Leakage,</b> per ASTM E 283 at 75 Pa (1.6 psf)	0.4 m <sup>3</sup> /hr/m (0.08 cfm/ft)	N/A
<b>Air Leakage,</b> per ASTM E 283 at 300 Pa (6.2 psf)	1.8 m <sup>3</sup> /hr/m (0.33 cfm/ft)	N/A
<b>Uniform Load Deflection,</b> Pre-loads per ASTM E 330 +2702 Pa (+56.43 psf) -2702 Pa (-56.43 psf)	No damage	No visible signs of joint damage or degradation
<b>Uniform Load Deflection,</b> Design Loads per ASTM E 330 +3602 Pa (+75.24 psf) -3602 Pa (-75.24 psf)	No damage	No visible signs of joint damage or degradation
<b>Water Penetration,</b> per ASTM E 331 at 541 Pa (11.29 psf)	No leakage	No water visible
<b>Water Penetration,</b> per ASTM E 331 at 900 Pa (18.80 psf)	No leakage	No water visible
<b>Water Penetration,</b> per ASTM E 331 at 1050 Pa (21.93 psf)	No leakage	No water visible
<b>Uniform Load Structural,</b> Test Loads per ASTM E 330 +5403 Pa (+112.85 psf) -5403 Pa (-112.85 psf)	No damage	No visible signs of joint damage or degradation
<b>Uniform Load Structural,</b> Test Loads per ASTM E 330 +7560 Pa (+157.89 psf) -7560 Pa (-157.89 psf)	No damage	No visible signs of joint damage or degradation
<b>Uniform Load Structural,</b> Test Loads per ASTM E 330 +9000 Pa (+187.97 psf) -9000 Pa (-187.97 psf)	No damage	No visible signs of joint damage or degradation

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



**TEST REPORT**

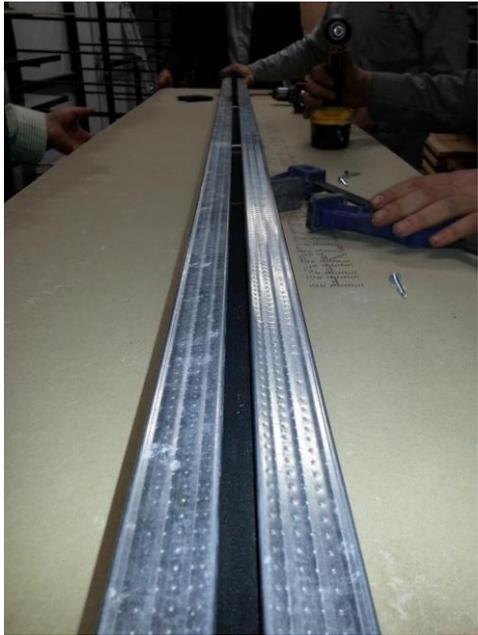
Report No.: D6167.01-121-24

Rendered to:

HANNO-WERK GMBH & CO. KG  
Laatzen, Germany

PRODUCT TYPE: Joint Sealing Tape  
SERIES/MODEL: Hannoband BG1 51/10-18

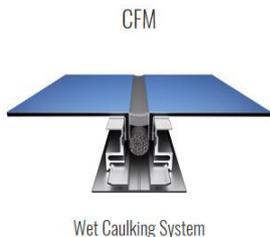
TEST METHOD: ASTM E 84-11a, *Standard Test Method for Surface Burning Characteristics of Building Materials*



Summary of ASTM E 84 Test Results	
Flame Spread Index	Smoke Developed Index
10	80

Classification	Flame Spread Index	Smoke Developed Index
A	0-25	0-450
B	26-75	0-450
C	76-200	0-450

Hannoband BG1 has been ASTM E 84 class A certified.



## Estimated Material & Labor Cost Comparison: Wet Sealing vs. Hannoband BG1

### 1. Wet Caulk

### 2. HANNOBAND

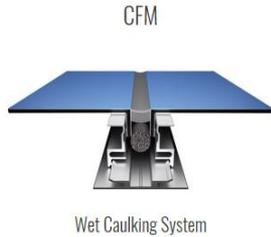
#### 2. Wet Caulk Material Costs:

- Facades Caulk → 5,00\$\* / 300ml (300ml => 300cm<sup>3</sup>)
- 5/8" = 16 mm → 11 mm (~2/5") joint depth → 300 / 1.6 x 1.0 = 170cm
- 5.00\$ / 1.70m = 2.94\$/m → **0.90 \$/ft**
- Backer rod 3/4" for 5/8" Joints 106.24\$\* / 1,100 ft → **0.09 \$/ft**
- **Total material cost: 0.99 \$/ft**

#### 3. HANNOBAND BG1 25 / 8-15 Material Costs (roll length 3.3m = 11.8 ft.)

- tape dimension 1" / 5/16-5/8" compressed to 1/4" / 6.5 mm: price – ca. 1.90 USD/m + 60% S&H / margin = 3.04 \$/m
- **Total material cost: 0.93 \$/ft**

- \* Estimated costs



### 1. Wet Caulk

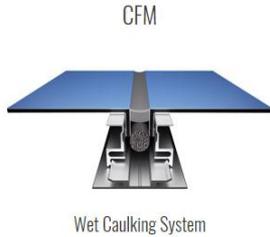
### 2. HANNOBAND

1. Wet Caulk installation cost per minute/crossjoint considering 30\$/h labor cost (0.50\$/min):

- Cleaning the joint 0.5
- Strip the joints before caulking 1.0
- Inserting backer rod into joint 0.5
- Applying caulk 5.0
- Remove strip 0.5 → 7.5 min/5ft → 3.75 \$/5ft → **0.75 \$/ft**

2. HANNOBAND installation cost per minutes/crossjoint considering 30\$/h labor cost (0,50 \$/min):

- Cleaning joint 0.5
- Inserting HANNOBAND into joint 2.0 → 2.5 min/5ft → 1.25 \$/5ft → **0.25 \$/ft**



### 1. Wet Caulk

### 2. HANNOBAND

#### 1. Wet Caulk total cost:

**0.75 \$/ft + 0.99 \$/ft → 1.74 \$/ft**

#### 2. HANNOBAND total cost:

**0.25 \$/ft + 0.93 \$/ft → 1.18 \$/ft**

**→ Estimated savings potential of 0.56 \$/ft. for the installed product !!!**

**Additional Hannoband BG1 benefits: Aesthetic, sustainable & durable!**

HANNO...  
the better choice!

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