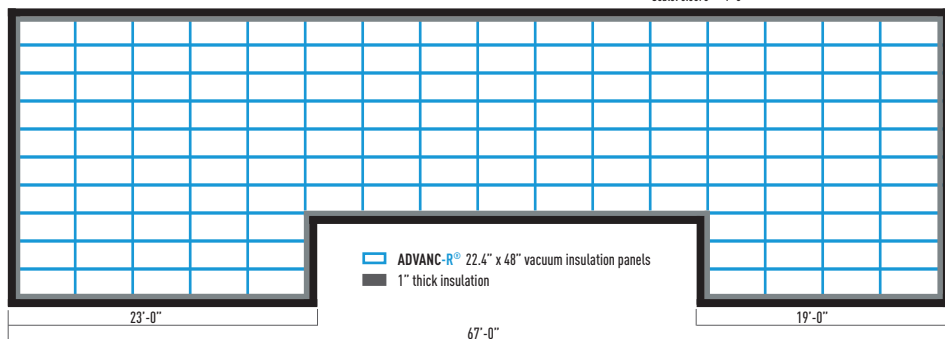


# PRODUCT INFORMATION SHEET

## ADVANC-R® TAKEOFF

Scale: 0.0375" = 1'-0"



## ADVANC-R® VACUUM INSULATION PANEL

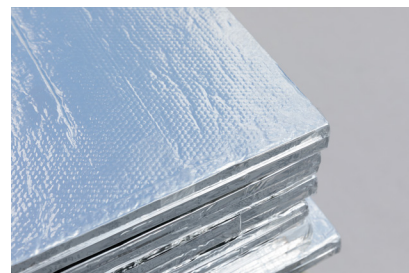
Engineered by Panasonic as  
the Ultra-Insulation for the  
building industry and tested  
to ASTM C1484 Standards

**PRODUCT:** ADVANC-R® Vacuum Insulation Panels (VIP)

**APPLICABLE MODELS:**

TZC3500E	570 mm x 610 mm x 24mm 22.4" x 24" x 0.94"
TZC3490E	570 mm x 1220 mm x 24mm 22.4" x 48" x 0.94"

**ISSUED DATE:** August 1st, 2023



The VIP referenced herein are exempt articles and not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

## SDS

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because our VIP is defined as "articles", they are exempt from the requirements of the Hazard Communication Standard, hence a SDS is not required.

The following components are found in a Panasonic ADVANC-R® Vacuum Insulation Panel (VIP)

COMPONENT	MATERIAL	FORMULA / CAS
Insulation Core	Fiberglass, Glass wool	65997-17-3
Outer Bag	Laminated Plastic Film with Aluminum	-
Desiccant	Calcium Oxide	1305-78-8
Air Adsorbent	Zeolite	1318-02-1

**Notice:** The information and recommendation set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Corporation of North America makes no warranty expressed or implied. ADVANC-R® is a registered trademark of Panasonic Corporation of North America. Copyright © 2021, Panasonic Corporation of North America.

**Panasonic**

Panasonic Industrial Devices Sales Company of America, Division of Panasonic Corporation of North America  
2 Riverfront Plaza, 10th Floor, Newark, NJ 07102-5490  
• na.industrial.panasonic.com/building • building@us.panasonic.com • +1-201-392-4244

# ADVANC-R<sup>®</sup> VACUUM INSULATION PANEL

## DISPOSAL

The materials in ADVANC-R<sup>®</sup> are identified as non-hazardous waste. Dispose of waste material according to Local, State, and Federal Environmental Regulations and Guidelines.

ADVANC-R<sup>®</sup> consists of 100% non-toxic materials. As much as 97% of the VIP (by weight) could be recycled.

## TRANSPORTATION

This product is identified as non-hazardous material. No special regulation with delivery and transportation.

## FIRST AID

In the case of fiberglass, Calcium Oxide or Zeolite is inhaled, move the affected person to fresh air. If irritation persists, seek medical attention.

In the case of contact with skin, wash with mild soap and running water. Use a washcloth to help remove fibers. To avoid further irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into the skin. If irritation persists, seek medical attention.

Never use compressed air to remove fibers from the skin. If the fibers are seen penetrating from the skin, the fibers can be removed by applying adhesive tape, so that the fibers adhere to the tape and are pulled out of the skin.

In case of contact with the eyes, immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists seek medical attention.

Do not ingest. If ingested, seek medical attention.

## GENERAL RECOMMENDATIONS

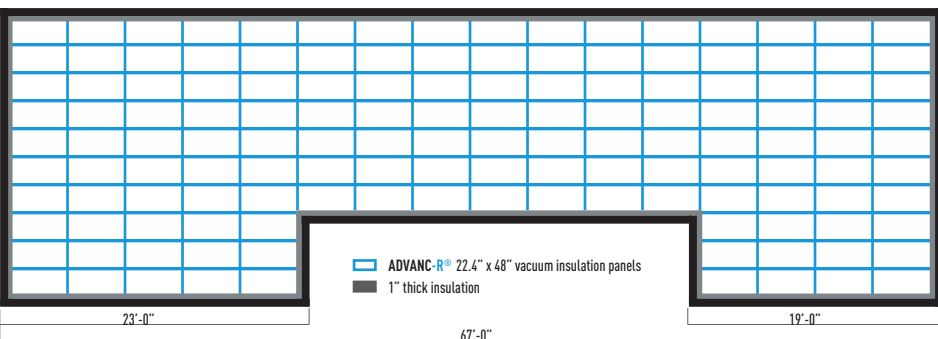
CAUTION: Avoid fiberglass, Calcium Oxide, or Zeolite to contact with skin, eyes, and clothing.

## FIRE SAFETY

In case of fire, the following extinguishing media can be used: dry chemical, foam, Carbon Dioxide, and water fog.

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## ADVANC-R® VACUUM INSULATION PANEL

Engineered by Panasonic as the Ultra-Insulation for the building industry and tested to ASTM C1484 Standards

**PRODUCT DESCRIPTION:** Panasonic ADVANC-R® Vacuum Insulation Panel (VIP) is Ultra-Thermal Insulation with industry top class Center of Panel R-value of 66<sup>(1)</sup>. ADVANC-R® VIP's R-value is as high as 16.8 times that of traditional insulation<sup>(2)</sup>. ADVANC-R® is your solution to meet increasing R-value requirements, while minimizing your roofing system's profile and maximizing building space. ADVANC-R® is thin, rigid, and non-structural. ADVANC-R® is Class A rated for flame and smoke.

### KEY FEATURES

- INDUSTRY TOP CLASS CENTER OF PANEL R-VALUE 66<sup>(1)</sup>**  
Integrating 20+ years of Panasonic's cutting-edge VIP technologies to engineer the Ultra-Insulator for building applications
- SOLUTION FOR RE-ROOFING WITH HEIGHT LIMITATIONS**  
An innovative and cost effective re-roofing solution that significantly increases roofing system's R-value while minimizing the system's profile
- INTERNAL SPACE MAXIMIZER FOR NEW CONSTRUCTION**  
Using industry top class R-value ADVANC-R® users can maximize the building's internal space by significantly reducing the roof system's profile
- INTERTEK ETL LISTED (CONTROL NUMBER: 5023792)**  
ASTM C1484  
ASTM E84  
ASTM C165  
ASTM C1667  
ASTM C1363  
ASTM D2126
- MADE OF NON-TOXIC AND ENVIRONMENTALLY FRIENDLY MATERIALS**  
Consists of 100% non-toxic materials
- AVAILABLE SIZES:**  
P/N                      W x L x T (inch)                      W x L x T (mm)  
TZC3500E              22.4 x 24.0 x 0.94                      570 x 610 x 24  
TZC3490E              22.4 x 48.0 x 0.94                      570 x 1220 x 24

### PRODUCT SPECIFICATIONS

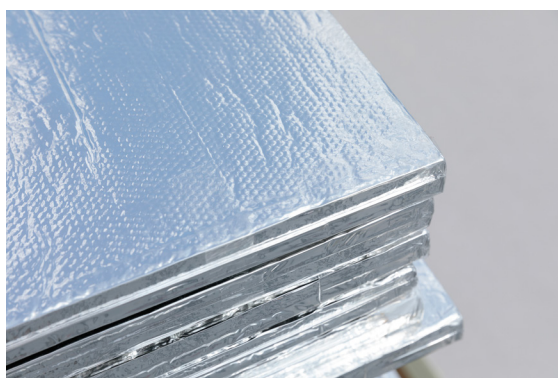
PART NUMBER	R-VALUE CENTER OF PANEL <sup>(1)</sup>	WIDTH		LENGTH		THICKNESS		WEIGHT		AREA		PANELS PER PALLET
	FT <sup>2</sup> ·F·H / BTU	IN	MM	IN	MM	IN	MM	LB	KG	FT <sup>2</sup>	M <sup>2</sup>	
TZC3500E	66	22.4	570	24.0	610	0.94	24	5.2	2.3	3.74	0.35	66
TZC3490E	66	22.4	570	48.0	1220	0.94	24	10.2	4.6	7.49	0.70	33

Disclaimer: <sup>(1)</sup> Based on independent third-party testing at time of publication. <sup>(2)</sup> Competitive insulation R values are based on publicly obtained information. ADVANC-R® is a registered trademark of Panasonic Corporation of North America. Copyright © 2021, Panasonic Corporation of North America. All Rights Reserved. Specifications are subject to change without notice.

# ADVANC-R<sup>®</sup> VACUUM INSULATION PANEL

## APPLICATIONS

- ADVANC-R<sup>®</sup> is your answer to achieving higher R-value requirements, especially in re-roofing situations, where there are space constraints preventing a thicker roof profile
  - Re-roofing of commercial buildings
  - New commercial building roofs
  - Residential building with limited slopes



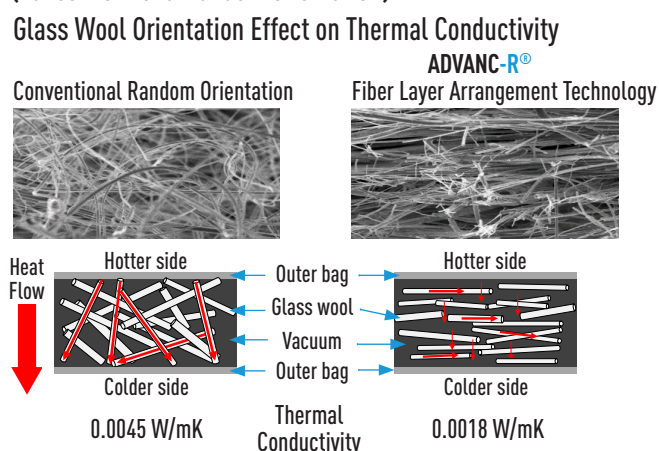
## STANDARDS AND APPROVALS



- Intertek ETL: Control Number (CN) 5023792
- ASTM C1484: Super-Insulation Standards
- Factory Mutual 4470: Single-Ply, polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction

## PRODUCT COMPOSITION

- Panasonic's ADVANC-R<sup>®</sup> VIP is comprised of a highly porous glass wool structure, absorbents and adsorbents in a vacuum sealed aluminum laminated bag
- The vacuum drastically reduces the transfer of heat through VIP. Our patented Fiber Layer Arrangement Technology (FLAT) radically improves thermal performance by aligning the glass wool to significantly reduce thermal conductivity by 60% (vs. conventional random orientation)



- ADVANC-R<sup>®</sup> VIP is manufactured in facilities with:
  - OHSAS 18001: 2007 Occupational Health & Safety Management Systems
  - ISO 9001: 2015 Quality Management Systems
  - ISO 14001: 2015 Environmental Management Systems

CATEGORY	VALUE	TEST
Flame Spread Index <sup>(1)</sup>	Class A (25)	ASTM E84
Smoke Development Index <sup>(1)</sup>	Class A (10)	
Density <sup>(1)</sup>	13.9 lbs/ft <sup>3</sup>	ASTM C1667
Compressive Strength @ 25% <sup>(1)</sup>	14.3 PSI	ASTM C165
Thermal and Humid Aging (after 2 weeks) <sup>(1)</sup>	7.43%	ASTM D2126
Service Temperature	-40°F to 140°F / -40°C to 60°C	

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# ADVANC-R<sup>®</sup> VACUUM INSULATION PANEL

## PRODUCT HANDLING

- The outer bag of ADVANC-R<sup>®</sup> must not be damaged or compromised such that it loses its vacuum
- Neither sizes can be changed or modified
- Read ADVANC-R<sup>®</sup> Handling & Installation guidelines for more details

## ROOF TAKE-OFF

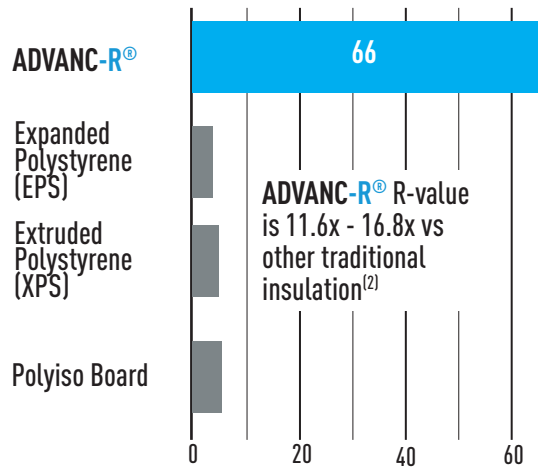
- For information on optimizing ADVANC-R<sup>®</sup> layouts for commercial building roofs, please contact Panasonic Building Products Team: +1-201-392-4424

building@us.panasonic.com

## INSTALLATION

- For commercial roofs, we recommend inserting ADVANC-R<sup>®</sup> between protective layers
- In order to maximize R-value, we recommend staggering the seams of each layer of the roofing system
- Only use Roofing System Manufacturers approved adhesives to attach our ADVANC-R<sup>®</sup> to other layers of the roofing system. Do not use fasteners, screws, nails, staples, etc
- ADVANC-R<sup>®</sup> should be installed at least 8" away from parapet walls, mechanical roof penetrations, or any other obstructions on the roof
- Stepping on the VIP may compromise the outer bag
- Ensure no foreign or sharp objects (burrs, metal shavings, screws, nails, etc) touch the ADVANC-R<sup>®</sup>
- Read ADVANC-R<sup>®</sup> Handling & Installation guidelines for more details

## COMMERCIAL ROOFING INSULATION: R-Value

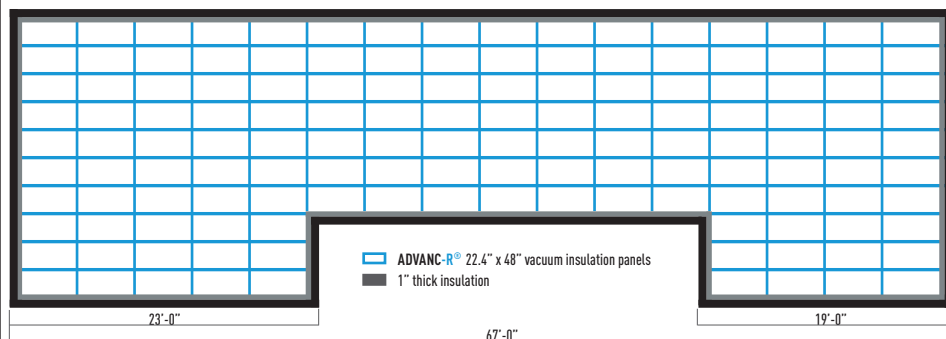




## PACKAGING

## ADVANC-R® TAKEOFF

Scale: 0.0375" = 1'-0"

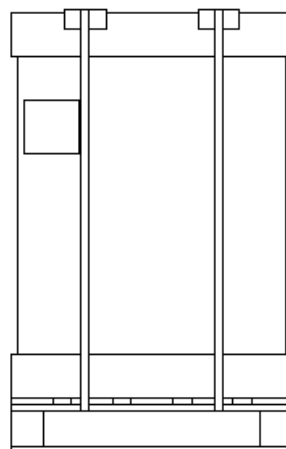
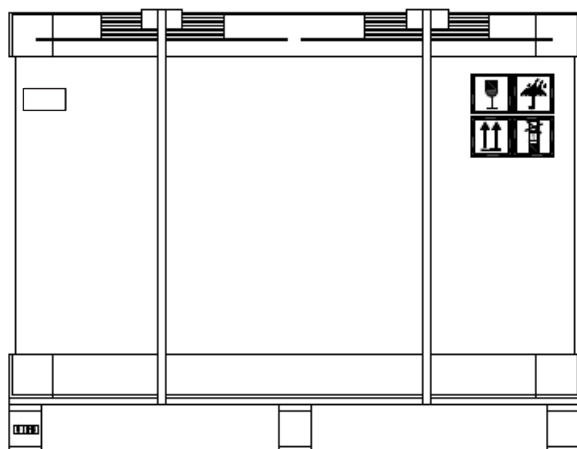


## ADVANC-R® VACUUM INSULATION PANEL

Engineered by Panasonic as the Ultra-Insulation for the building industry and tested to ASTM C1484 Standards

**PRODUCT DESCRIPTION:** Panasonic ADVANC-R® Vacuum Insulation Panel (VIP) is Ultra-Thermal Insulation with industry top class Center of Panel R-value of 66<sup>(1)</sup>. ADVANC-R® VIP's R value is as high as 16.8 times that of traditional insulation<sup>(2)</sup>. ADVANC-R® is your solution to meet increasing R-value requirements, while minimizing your roofing system's profile and maximizing building space. ADVANC-R® is thin, rigid, and non-structural. ADVANC-R® is Class A rated for flame and smoke.

PART NUMBER			TZC3500E		TZC3490E	
DIMENSIONS		INCH	22.4 x 24.0 x 0.94		22.4 x 48.0 x 0.94	
		MM	570 x 610 x 24		570 x 1220 x 24	
Number of Panels per Pallet			66		33	
Approximate Packaging Dimensions	Width	Inch mm	29 9/64" 740 mm			
	Length	Inch mm	58 9/32" 1,480 mm		54 47/64" 1,390 mm	
	Height	Inch mm	41 31/32" 1,066 mm			
	Gross Weight	lb kg	406 184		395 179	
Pallet Stacking			Double-stack (only on ground and transport vehicles)			
Packaging Material			Corrugated Paper			

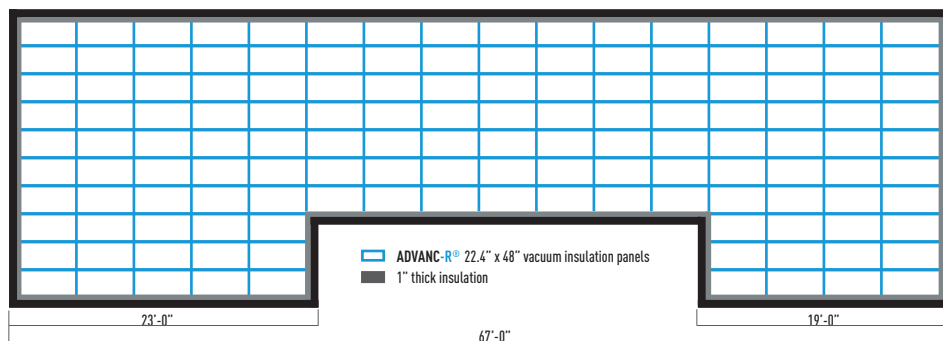


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## HANDLING & INSTALLATION

## ADVANC-R® TAKE-OFF

Scale: 0.0375" = 1'-0"



## ADVANC-R® VACUUM INSULATION PANEL

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## BUILDING APPLICATIONS

- ADVANC-R® is specifically engineered for building applications
- Use ADVANC-R® as part of a commercial roofing system, inserting our ADVANC-R® VIP between protective layers
- We recommend staggering of each layer of the roofing system to optimize thermal insulation and minimize thermal bridging

## ROOF TAKE-OFF

- For information on optimizing ADVANC-R® layouts for commercial building roofs, please contact Panasonic Building Products Team: +1-201-392-4424 or [building@us.panasonic.com](mailto:building@us.panasonic.com)
- ADVANC-R® should be installed at least 8" away from parapet walls, mechanical roof penetrations, or any other obstructions on the roof
- Available ADVANC-R® sizes

PART NUMBER		WIDTH	LENGTH	THICKNESS
TZC3500E	Inch	22.4	24.0	0.94
	mm	570	610	24
TZC3490E	Inch	22.4	48.0	0.94
	mm	570	1220	24

## PRODUCT HANDLING

- ADVANC-R® is shipped in specially designed packaging and on a pallet. Do not unpack until installation
- The outer bag of ADVANC-R® must not be damaged or compromised such that it loses its vacuum
- Certain actions may compromise the outer bag and affect thermal performance. Therefore:
  - Do not cut
  - Do not puncture
  - Do not bend
  - Do not mechanically fasten
  - Do not expose to water, rain, snow, moisture
- Neither sizes may be modified or changed
- VIP may be statically charged, so use anti-static gloves when handling

## WAREHOUSE STORAGE

- ADVANC-R® will be shipped in a carton box loaded on a pallet. Store indoors in a well ventilated area and on the pallet
- Keep ADVANC-R® on the pallet and away from any water



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# ADVANC-R<sup>®</sup> VACUUM INSULATION PANEL

## WAREHOUSE STORAGE - CONTINUED -

- Maintain ambient temperature below 104°F (40°C)
- Ensure ambient humidity to be below 50% RH
- Maximum stacking is 2 pallets high

## TRANSPORTING TO JOB-SITE

- Transport ADVANC-R<sup>®</sup> in manufacturers designed packaging and pallet and keep level
- When securing palletized ADVANC-R<sup>®</sup> with straps, etc, always use edge/strap protectors and do not use excessive tension as this may damage the packaging and VIP. Also protect the VIP with waterproof tarp during transport

## JOB-SITE STORAGE (STAGING)

- Always store on level ground, use a waterproof tarp to protect ADVANC-R<sup>®</sup> from the weather, rain, snow, water, excessive heat and direct sunlight

## INSTALLATION

- For commercial roofs, we recommend inserting ADVANC-R<sup>®</sup> between protective layers
- In order to maximize R-value, we recommend staggering the seams of each layer of the roofing system
- Only use Roofing System Manufacturers approved adhesives to attach our ADVANC-R<sup>®</sup> to other layers of the roofing system. Do not use fasteners, screws, nails, staples, etc
- ADVANC-R<sup>®</sup> should be installed at least 8" away from parapet walls, mechanical roof penetrations, or any other obstructions on the roof
- Ensure no foreign or sharp objects (burrs, metal shavings, screws, nails, etc) touch the ADVANC-R<sup>®</sup> and the VIP is level
- Inspect ADVANC-R<sup>®</sup> and ensure it is firm and dry. Keep ADVANC-R<sup>®</sup> dry at all times

- Stepping on ADVANC-R<sup>®</sup> may compromise the outer-bag and thermal performance
- ADVANC-R<sup>®</sup> has a right side up. The highly reflective side should always face up
- Do not apply more than 14.3 psi of pressure on ADVANC-R<sup>®</sup> to ensure it adheres to the substrate

