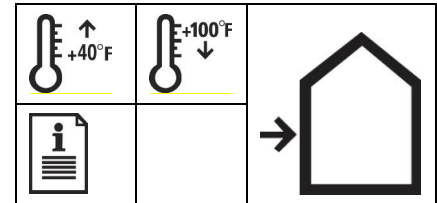


## PRODUCT BULLETIN

## Sto GPS Board

Product Number: 81854



## PRODUCT DESCRIPTION

Sto GPS Board is a graphite enhanced expanded polystyrene (GPS) insulation board for use in StoTherm® ci GPS and StoPowerwall® ci exterior insulating wall systems.

Sto GPS Board complies with:

- ASTM C578, Type I, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*
- ASTM E2430, *Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems (EIFS)*

FEATURES	BENEFITS
Continuous exterior insulation	Efficient and effective use of insulation reduces energy consumption and cost
Higher R-value than standard EPS	Thinner wall sections
No fluorocarbon blowing agents (HFC, HCFC, or CFC) used in manufacturing	Low global warming potential and zero ozone depletion potential
Recyclable	Reduced environmental impact
Water vapor semi-permeable	Aids in drying incidental water in walls

**Packaging:** Packaged in a light colored shroud on pallets, 48 pallets per 48ft flatbed trailer, 52 pallets per 53ft flatbed trailer.

**Shelf Life:** 2 years in original, unopened, properly stored packaging.

**Storage:** Store in a well-ventilated area away from sources of high heat, ignition, sparks, flame, flammable or volatile materials. Enforce “No Smoking – No Matches – No lighters – No Welding” rules. Store in original packaging in a dry location on pallets minimum 3 inches (76mm) above ground. Store inside, or, if stored outside slit the shroud or remove it to prevent accumulation of condensation.

PROTECT FROM UV EXPOSURE WITH AN OPAQUE LIGHT COLORED WEATHERPROOF COVERING. DO NOT COVER WITH ANYTHING CLEAR, SHRINK WRAP, PLASTIC COVERING OR WITH DARK COLORED TARPS OR OTHER COVERINGS WHICH CAN CAUSE HEAT BUILD-UP AND SURFACE DEFORMATION OF THE INSULATION. BE CONSCIOUS OF SECONDARY LIGHT REFLECTION SOURCES WHEN STORING THE MATERIAL.

If stored outside without protective covering the surface will chalk with extended exposure to sunlight. Chalking does not affect physical properties but it will prevent adhesion of coatings.

## SIZES AND R-VALUE

2 x 4 ft (0.61 x 1.22m) for Use in StoTherm ci

Sto Article No.	Thickness in (mm)	Pieces per Bundle	Ft² (m²)	R-value* ft²·h·°F/Btu (m²·K/W)
81854-825	1-1/16 (27)	18	144 (13.4)	5.0 (0.88)
81854-826	1-1/4 (32)	16	128 (11.9)	5.9 (1.03)
81854-838	1-1/2 (38)	13	104 (9.67)	7.1 (1.24)
81854-827	1-3/4 (44)	11	88 (8.18)	8.2 (1.45)
81854-839	2 (51)	10	80 (7.43)	9.4 (1.66)
81854-840	2-1/8 (54)	9	72 (6.70)	10.0 (1.76)
81854-828	2-1/4 (57)	8	64 (5.95)	10.6 (1.86)
81854-829	2-1/2 (64)	8	64 (5.95)	11.8 (2.07)
81854-830	2-3/4 (70)	7	56 (5.21)	12.9 (2.28)
81854-831	3 (76)	6	48 (4.46)	14.1 (2.48)
81854-842	3.25 (83)	6	48 (4.46)	15.3 (2.69)
81854-832	3-1/2 (89)	5	40 (3.72)	16.5 (2.90)
81854-843	3-3/4 (95)	5	40 (3.72)	17.6 (3.10)
81854-833	4 (102)	5	40 (3.72)	18.8 (3.31)
81854-841	4-3/8 (111)	4	32 (2.98)	20.6 (3.62)
81854-834	5 (127)	4	32 (2.98)	23.5 (4.14)
81854-835	6 (152)	3	24 (2.23)	28.2 (4.97)
81854-836	7 (178)	2	16 (1.49)	32.9 (5.79)
81854-837	8 (203)	2	16 (1.49)	37.6 (6.62)

4 x 8 ft (1.22 x 2.44m) for Use in StoPowerwall ci

Sto Article No.	Thickness in (mm)	Pieces per Pallet	Ft² (m²)	R-value* ft²·h·°F/Btu (m²·K/W)
81858-725	1-1/16 (27)	45	1440 (134)	5.0 (0.88)
81858-728	2-1/8 (54)	22	704 (65.4)	10.0 (1.76)

\*R-value at 75° F (23.9° C) mean temperature. Per FTC regulation 16 CFR § 460.11, R-values (in Imperial Units) are rounded to the nearest tenth and R-values of 10 or more are rounded to the nearest whole number.

## APPLICATION

**StoTherm ci:** attach the insulation in a running bond pattern to the supporting substrate with vertical ribbons of Sto TurboStick® Adhesive. Stagger insulation board joints a minimum of 6-inches (152mm) from sheathing joints. Allow adhesive to cure until the board is firmly held in place. When cured rasp the surface of the insulation board to remove any surface chalking or contamination and to break the surface smoothness. For complete instructions refer to *StoTherm EIFS Installation Guide* and *Sto TurboStick Adhesive* Product Bulletin.

**StoPowerwall ci:** attach insulation boards to framing with corrosion resistant bugle head metal screws and 1-1/4-inch (32mm) metal lath locks or other corrosion resistant cap fastener. Use only enough fasteners (minimum 3 per board mid-span) to temporarily hold the board in place. Stucco lath attachment is intended to permanently hold the board in place. For complete instructions refer to Sto Specification No. 6300, *StoPowerwall ci*.

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### LIMITATIONS

- Do not use on interior walls
- Minimum thickness if 1-1/16 inch (27mm)
- A thermal barrier is required (typically minimum 1/2 inch [12.7mm] gypsum wallboard) to separate the insulation board from the building interior
- Use on noncombustible construction is limited<sup>1</sup> to 12-inches (305mm) maximum thickness, and in some cases may be limited to 6-inches. Refer to ICC ESR-1748.
- Use on fire-resistance-rated wall construction is limited<sup>1</sup> to 6-inches (152mm), and in some cases may be limited to 4-inches. Refer to ICC ESR-1748.
- Do not use below grade. Maintain clearance of minimum 6-inches (152mm) above grade and exposed earth.
- Do not use on surfaces subject to in-service water immersion.
- Do not use in direct contact with fire or in proximity to sources of high heat, ignition, sparks, or, in long term high-temperature applications
- Maximum sustained service temperature is 165°F (73.9°C). Avoid the use of dark colored coatings (Light Reflectance Value less than 20) to prevent heat build-up on the surface of the insulation board
- Surface will chalk with prolonged UV exposure. Rasp the surface to remove chalk before applying any coatings.
- Refer to ICC ESR-1748 for any other limitations that may apply.

1. NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question.

### LIMITED WARRANTY

This product is subject to a written limited warranty which can be obtained free of charge from Sto Corp.

### HEALTH & SAFETY

#### Health Precautions

Inhalation or eye exposure to dust from this product may cause temporary irritation. Skin exposure to the product may cause mechanical irritation, cuts or punctures.

#### Safety Precautions

Use adequate ventilation. Protective gloves, long sleeved shirt and long pants are recommended to reduce skin contact or irritation. Remove contaminated clothing immediately.

#### First Aid

SKIN CONTACT: Wash with mild soap and running water. Remove and launder contaminated clothing before reuse. If irritation develops seek medical attention.

EYE CONTACT: Flush eyes with running water for at least 15 minutes. Seek medical attention if irritation develops.

RESPIRATORY PROBLEMS: Respiratory protection is not normally required. If dusts are generated up to 10 times above occupational exposure limits, use a NIOSH-approved particulate respirator with an efficiency rating of N95 or higher.

INGESTION: Ingestion of this material is unlikely. If it does occur, do not induce vomiting; seek medical attention.

FIRE: Move to fresh air. Administer oxygen and seek medical attention.

HYGIENE: Wash hands immediately after use. Wash clothing before re-use.

#### Spills

Land Spill: Scoop up material and put into suitable container for recycling or disposal as a non-hazardous waste in an appropriate recycling or disposal facility.

Water Spill: this material will float and disperse with wind and current. Contain the material with brooms, pick up or remove with a vacuum truck.

Air Release: This material will settle out of air. If concentrated on land, it can then be scooped up for recycling or disposal as a non-hazardous waste material.

#### Disposal

Incinerate, recycle or dispose in a licensed facility in accordance with local, state or federal regulations. Do not discharge into waterways or sewer systems without proper authority.

#### Warning

KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Safety Data Sheet (SDS) for further health and safety information.

Safety Data Sheet (SDS) is available at [www.stocorp.com](http://www.stocorp.com).

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## TECHNICAL DATA

REPORT	TEST METHOD	TEST CRITERIA	TEST RESULT
Compressive Strength at 10% deformation	ASTM C578 / D1621	Report Results	10 lb/in <sup>2</sup> (0.07 N/mm <sup>2</sup> )
R-value per inch (25mm) at 75° F (23.9°C) mean temperature	ASTM C578 / C518	Report Results	4.7 ft <sup>2</sup> ·h·°F/Btu (0.83 m <sup>2</sup> ·K/W)
R-value per inch (25mm) at 40° F (4.4°C) mean temperature	ASTM C578 / C518	Report Results	4.9 ft <sup>2</sup> ·h·°F/Btu (0.86 m <sup>2</sup> ·K/W)
R-value per inch (25mm) at 25° F (-3.9°C) mean temperature	ASTM C578 / C518	Report Results	5.1 ft <sup>2</sup> ·h·°F/Btu (0.90 m <sup>2</sup> ·K/W)
Flexural Strength	ASTM C578 / C203	Report Results	25 lb/in <sup>2</sup> (0.17 N/mm <sup>2</sup> )
Water Absorption 24-hour immersion	ASTM C578 / C272	Report Results	3.0%
Water Absorption 24-hour immersion & 24-hours @ 50%RH	ASTM C578 / C272	Report Results	0.3%
Water Vapor Permeance at 1-inch (25mm) thick	ASTM C578 / E96	Report Results	5.0 perms (286 ng/Pa·s·m <sup>2</sup> at 25mm)
Surface Burning	ASTM E84	Flame Spread: ≤ 75 Smoke Developed: ≤ 450	< 25 < 450

### Building Code Compliance

- UL Listed and Labeled (UL R27379)
- Complies with ASTM C578, Type I
- Complies with ASTM E2430 for use in EIFS
- Complies with ASHRAE 90.1-2019, Section 5, Building Envelope, continuous insulation requirements as a component of StoTherm ci and StoPowerwall ci
- Complies with 2018 and 2021 IBC, IRC, and IECC. Meets continuous insulation requirements when used as a component of StoTherm ci and StoPowerwall ci
- Meets requirements for use on Noncombustible Construction as a component of StoTherm ci and StoPowerwall ci Exterior Insulating Wall Systems (refer to ICC ESR-1748 and ICC ESR-1233 [Tables 1 and 2]) based on evaluation of NFPA 285 and NFPA 268 testing.
- Meets requirements for use in fire-resistance-rated wall assemblies based on evaluation of ASTM E119 testing (refer to ICC ESR-1748)

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### ATTENTION

This product is intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. It should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of this product or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to this product, and to the structure of the building or its components. **STO CORP. DISCLAIMS ALL WARRANTIES EXPRESSED OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME.** For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, [www.stocorp.com](http://www.stocorp.com)