

AT THE CORE OF YOUR SUCCESS[®]



Atlas EPS understands that in a manufacturing environment, your process depends on our products performing the same day after day, year after year. Each manufacturing facility uses state of the art vacuum molding technology to assure the most consistent materials, proprietary cutting technology to deliver precise thickness, and customized packaging to fit your manufacturing needs. Density and recycle content combinations are discussed so we fully understand the critical aspects of your product, and product codes assure the same agreed material type is used each time. This is Integrity[®].

THERMAL RESISTANCE R-3.9 to R-4.4 per inch

R means resistance to heat flow. The higher the R-value, the greater the insulation power.

PRODUCT DESCRIPTION

Integrity[®] EPS is rigid insulation available in various combinations of density, ASTM types and recycle content. The ASTM Engineered series of products are manufactured to **meet the requirements** of ASTM C578 Standard Specification for Rigid Insulation.

- Industry-leading consistency and delivery
- Virgin expandable polystyrene resin, no recycled content added
- Smooth surface
- Flame retardant grade, meets ASTM E84 < 25 flame spread
- UL Listed
- Contains no CFCs, HFCs or HCFCs — **only air** in the insulating cells
- ROHs and REACH compliant, contains no HBCD
- Closed-cell construction

Table 1 – Physical Properties

Property & ASTM Test Method	ASTM Engineered Solutions					
Product ID	101-00	121-00	151-00	201-00	251-00	351-00
Compressive Strength (minimum psi) @ 10% deformation ¹ D1621	12	15	20	30	45	60
R-value per inch (minimum) at 75°F mean temperature C518	3.9	4.0	4.2	4.2	4.2	4.4
ASTM classification C578	Type I	Type VIII	Type II	Type IX	Type XIV	Type XV
R-value per inch (minimum) at 40°F mean temperature C518	4.2	4.3	4.6	4.6	4.6	4.8
R-value per inch (minimum) at 25°F mean temperature C518	4.4	4.5	4.8	4.8	4.8	5.0
Coefficient of linear expansion C578 (in/in/°F)	.000035	.000035	.000035	.000035	.000035	.000035
Flexural Strength (minimum psi) C203	27	33	42	55	65	90
Water absorption % by volume, maximum after 24 hour immersion C272	2.5	2.0	2.0	1.5	1.5	1.5
Water vapor permeance at 1" thick (perms) — typical E96	4.0	3.5	3.0	2.5	2.5	2.0
Surface burning — flame spread and smoke developed E84	FS < 20, SD < 400					
Maximum use temperature	Short term (10-15 minutes) 180°F Long term 165°F					

¹ Integrity EPS is elastic within 1-2% deformation.

INSTALLATION & HANDLING

Integrity ASTM Engineered EPS is used in some structural products such as SIPS, and must be separated from the interior occupants of a building by a 15 minute thermal barrier. Exceptions can be found in ICC-ES Report ESR-1962, UL ER16529.1.

DENSITY

OEM products are commonly ordered via nominal density (1#, 1.5#, 2#) etc. Construction products are commonly specified via ASTM C578 Types. While C578 includes minimum density requirements, most OEM applications require engineered solutions, where strength and surface dictate performance and adhesive application consistency. Other Integrity series of products may work in your application.

CODE COMPLIANCE

Integrity ASTM Engineered EPS complies with the model building codes when properly installed:

- Surface burning – UL BRYX.R16529
- Cal Std Reg #CA472
- International Energy Conservation Code
- ASTM C578 – see product marking for Type
- International Residential Code (IRC) – ICC-ES Report ESR-1962, UL ER16529.1
- International Building Code (IBC) – ICC-ES Report ESR-1962, UL ER16529.1
- CAN/ULC S102.2, S701 – ULC BOZCC.R16529

QUALITY ASSURANCE SYSTEM

Atlas EPS utilizes the best practices of ISO-9001, while remaining agile enough to customize solutions for each client. Fitness for use is assured through initial product sampling, process inspection, and ERP backed specifications for every single product you buy. If an issue arises, root cause and corrective action are completed with a goal of not more than 72 hour turnaround.

SAFETY

SDS for this product available at www.atlaseps.com. Dust generated from sanding or cutting Integrity EPS should be avoided using a dust mask as with other building materials. Integrity EPS is combustible and the product should be protected from ignition sources such as open flames or welder's torch. Applications not specifically listed in ICC-ES Report ESR-1962 or UL ER16529.1 require permanent separation of Integrity EPS from the interior of the building by a thermal barrier such as drywall or concrete for fire safety.

MOLD RESISTANCE

Integrity EPS has been tested against 4 week exposure to various mold and fungi via ASTM G21, D3273, and C1338 with no growth of spores on the product. Integrity EPS provides no nutritive value for mold. However, construction practices greatly impact mold growth, and fungi have been known to even grow on glass.

The most current version of this document can be found at www.IntegrityComponentSolutions.com



ENVIRONMENTAL

Integrity EPS uses air in the insulating cells, emitting no gasses. Integrity EPS is readily accepted for recycle at many drop off locations. Visit www.epspackaging.org to locate a drop-off location nearest you.

CHEMICAL & PHYSICAL PROPERTIES

Table 1 lists the physical properties of Integrity EPS. Chemical resistance is listed in Table 2. Contact Technical Services for compatibility of materials not listed.

Table 2 – Chemical Compatibility of Integrity EPS

Inorganic Acids (Muriatic, Sulfuric, Boric Acid)	Excellent
Organic Acids (Carbolic, Citric, Acetic Acid)	Good
Bases (Sodium Hydroxide, Potassium Hydroxide, Ammonia)	Excellent
Alcohols (Methanol, Ethanol, Isopropyl Alcohol)	Good
Beer, Tea, Coffee, Carbonated Soda, Water, Fruit Juice	Excellent
Household Liquid Spray Insecticides (non-aqueous)	Poor
Cement	Excellent
MEK, Methylene Chloride, Acetone	Poor
Antifreeze (Ethylene Glycol – Green, Propylene Glycol – Orange)	Excellent
Hydrocarbons (Hexane, Gasoline, Diesel, Kerosene)	Poor
Mineral Oil	Excellent
Other Oils (Corn, Motor, Palm, Coconut Oil)	Good
Agricultural (Manure, Feed, Urine, Soil, Fertilizer)	Excellent
Formaldehyde, Turpentine, Chloroform, Naphtha)	Poor
Salts (Ammonium, Ferrous, Sodium Chloride, Sulfur)	Excellent
MDI-based Adhesive (Gorilla Glue, Fast-Tac, Dow Great Stuff)	Good
Bleach, Detergents, Borax	Excellent
Cured Mastic, Construction Adhesive, Hardened Asphalt	Good
Wherever XPS insulation is used	Excellent

Excellent = No degradation, no effect from exposure
Good = some effect from exposure, but not significant for product performance
Poor = significant degradation affecting performance, up to completely dissolving product
This table is a guide only – consult Atlas Technical Services for specific chemical design questions