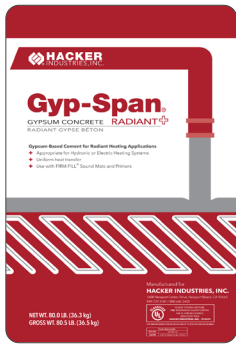




GYP-SPAN® Radiant

Submittal Sheet

TECHNICAL DATA	PROPERTIES	ASTM
Compressive Strength	2000 to 3200 psi (13.8 to 22 MPa)	C472 M
Thickness	3/4" (19 mm) over top tubes; 1 1/2" (38 mm) total thickness	
Weight	14.6 lb/ft ² (71.3 kg/m ²) at 1 1/2" (38 mm)	C472 M
Thermal Performance	K-value of 2.8 BTU/(hr.ft.F°); R-value of 0.36 (ft ² .hr.F°)	C177
Fire Hazard Classification	Flame Spread Index 0; Fuel Contribution 0; Smoke Density 0	E84
Sand	1/8" (3 mm) or less washed plaster or masonry sand (meets requirements of Hacker Industries, Inc., <i>Sand Specification</i>)	



FIRM-FILL® Radiant Gypsum Concrete Underlayment (GCU)

- ✓ High-strength underlayment for use over radiant heat systems
- ✓ Efficient thermal mass for uniform heat distribution
- ✓ No hot spots, air bubbles or shrinkage cracks
- ✓ Lightweight and crack-resistant
- ✓ Creates a flat and durable underlayment surface for finished floor coverings
- ✓ Install over a FIRM-FILL® Sound Control Mat (SCM) for improved IIC Ratings

Product Description

GYP-SPAN® Radiant Gypsum Concrete is specially formulated for use over hot water tubes or electric cables in radiant heat systems. The non-shrinking nature of GYP-SPAN® Radiant helps to lock radiant heat tubes in place, preventing noise and chafing, and evenly distributing the heat throughout the subfloor. Installed after drywall, GYP-SPAN® Radiant accepts virtually all types of floor coverings such as ceramic tile, carpet and wood.

FIRM-FILL® Radiant is mixed on the job site with local sand, meeting Hacker Industries, Inc., *Sand Specifications*, and potable water to create a lightweight slurry. Installed at a minimum 3/4" (19mm) thick above the top of the tubes (total thickness of 1 1/2" [38 mm]), the underlayment weighs approximately 14.6 lb/ft² (71.3 kg/m²) with an approximate dry density range of 105-120 pcf.

For residential projects, FIRM-FILL® Radiant is a cost-efficient way to create a warm, durable, hard surface for finished floor coverings with superior acoustic and fire resistance properties. To achieve additional sound isolation, use with Hacker sound attenuation products.

Related Products

FIRM-FILL® Radiant is used in conjunction with: Hacker Floor Primer, Hacker Reinforcement, FIRM-FILL® Sound Control Mats, FIRM-FILL® SCM Tape, EnkaSonic® Plus, Hacker Floor Sealer, Hacker Perimeter Isolation, and Hacker TopCoat® SP (Surface Prep). For more products, visit www.hackerindustries.com/products.shtml.

UL FIRE RATED DESIGNS
L003, L006, L201, L202, L206, L208, L209, L210, L211, L212, L501, L502, L503, L504, L505, L506, L507, L508, L509, L510, L511, L512, L513, L514, L515, L516, L517, L518, L519, L520, L521, L522, L523, L524, L525, L526, L527, L528, L529, L530, L533, L534, L535, L536, L537, L538, L539, L540, L541, L542, L543, L545, L546, L547, L549, L550, L551, L556, L557, L558, L560, L562, L563, L564, L565, L569, L570, L573, L574, L576, L577, L579, L581, L583, L585, L587, L588, L589, L590, L592, L593, L598
M500, M501, M502, M503, M504, M505, M506, M508, M509, M511, M513, M514, M515, M517, M519, M520, M521, M525, M526, M530, M531, M536, M538, M540, M544, M545, M546, M550, M553
J917, J919, J920, J924, J927, J931, J957, J958, J991, J994

Sound Testing & UL Fire Rated Designs

Published acoustic and fire systems tests were conducted under controlled laboratory or field conditions and reflect results applicable only to those specific assemblies. For more information on acoustical assemblies, visit www.hackerindustries.com/acoustical-design-guide-download.shtml.

Compliance • ICC-ESR-3386 • IAPMO UES Evaluation Report No. 474 • HUD 1255e

Limitations

1. Do not use in exterior locations or below-grade.
2. Do not over water; do not over sand.
3. Do not install where continuous exposure to moisture is a possibility.
4. Do not use as a wear surface; underlayment must be covered by a finished floor covering.
5. Structure shall be designed so that deflection does not exceed L/360. Certain floor coverings such as marble, limestone, travertine and wood may have more restrictive deflection limits. Consult the appropriate floor covering manufacturer.
6. No single application of FIRM-FILL® Radiant shall exceed 3" in depth. Drying times must be extended to accommodate thicker pours.
7. FIRM-FILL® Radiant is but one component of an effective sound and fire control system. Care must be taken in the installation of all components to assure the ultimate design performance.

Installation

Before, during and after the installation of FIRM-FILL® Radiant, the building must be enclosed and the temperature maintained at a minimum of 50°F (10°C). Prior to the installation of FIRM-FILL® Radiant, the subfloor shall be structurally sound, broom-cleaned, dry and free from oil, grease, paraffin, laitance, wax or other contaminants. Prime the structural substrate with Hacker Floor Primer or approved equal before installing underlayment.

Adequate ventilation (and heat if necessary) shall be provided by the General Contractor (GC) to ensure proper drying of FIRM-FILL® Radiant. When necessary, the GC shall provide mechanical ventilation. Depending on thickness and drying conditions, the underlayment should dry within 8 to 14 days. To avoid potential problems during the drying process, the GC shall consult Hacker Industries, Inc.'s *Drying Conditions Flyer* and Hacker Industries, Inc.'s website for additional information concerning optimal drying conditions for this product. After installation, temporary planking shall be placed by the GC anywhere the floor underlayment is subject to wheeled concentrated loads, or heavy trade traffic.

Finished floor coverings may be installed when the FIRM-FILL® Radiant is completely dry and tested for moisture content by the floor covering installer. Consult the flooring contractor for recommended procedures to test for dryness and acceptable levels of moisture (see ASTM F2419). All recommendations or instructions made by finished floor covering manufacturers supersede these recommendations. Refer to Hacker Industries, Inc.'s *Guidelines for Installing Finished Floor Coverings*. The guideline is not a warranty and shall be used as a guideline only.

WARNING

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read all specifications, SDS and literature prior to specification and installation. When mixed with water, this product hardens and becomes extremely hot. Do not attempt to make a cast enclosing any part of the body using this material. Portland cement is strongly alkaline. Direct contact can be corrosive and cause severe damage or chemical burns to eyes and wet, moist skin. Wear protective glasses and clothing. If in eyes, immediately flush thoroughly with water and seek medical attention. Avoid breathing dust. Use a NIOSH/MSHA-approved dust respirator. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call a physician. For product safety, call (800) 642-3455. **KEEP OUT OF REACH OF CHILDREN.**

NOTES

The information in this document is subject to change without notice. Hacker Industries, Inc., and/or its affiliates assume no responsibility for any errors that may inadvertently appear in this document. Consult Hacker Industries, Inc., for updated information.

WARRANTY

Hacker Industries, Inc. shall not be liable for incidental, special, or consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instruction or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claims shall be deemed waived unless made in writing to us within 30 days from the date it was discovered. Extended Warranty is available on the Hacker Industries, Inc. website.

TRADEMARKS

FIRM-FILL®, Let Our Products Floor You® and the associated logos are trademarks of Hacker Industries, Inc. EnkaSonic® is a registered trademark of Low & Bonar.