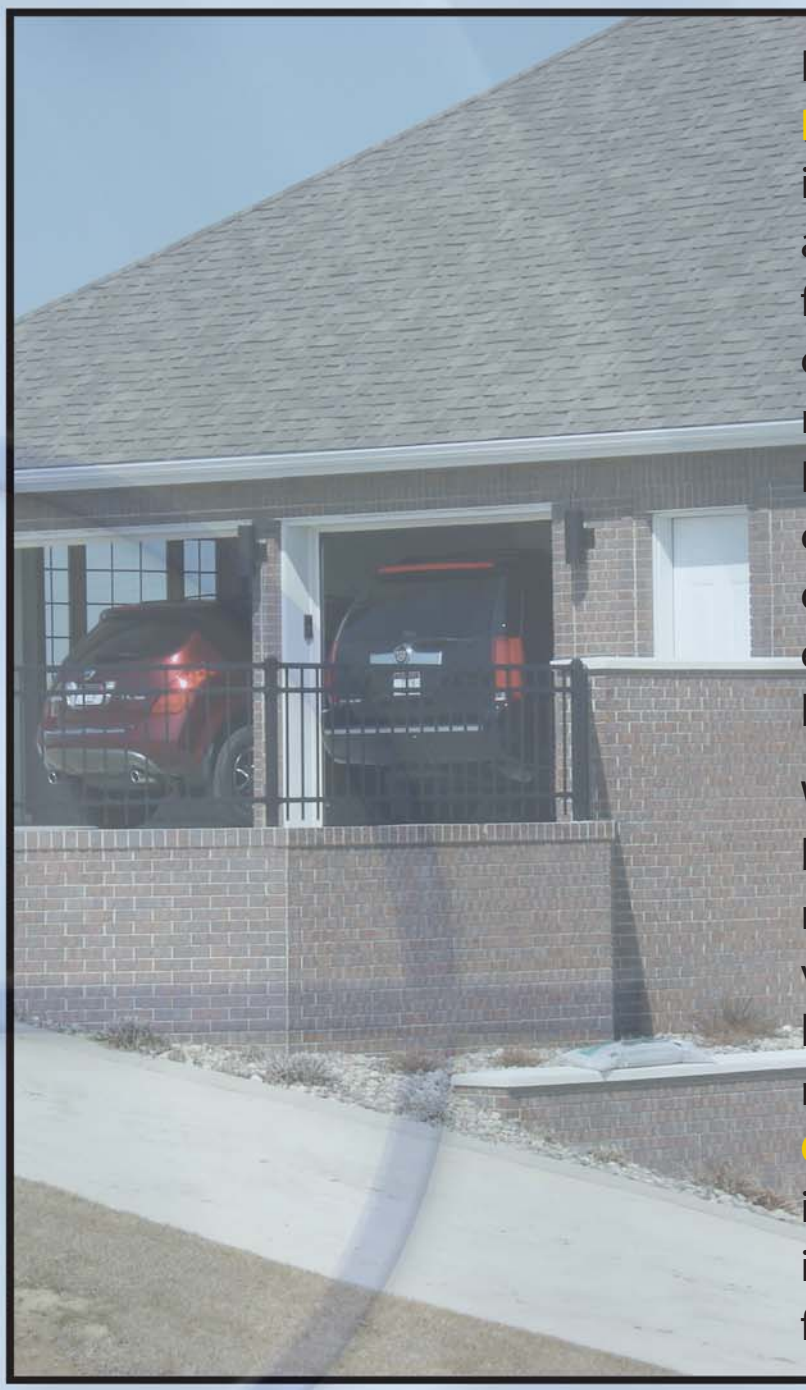
LITE-DECK®
by Benchmark Foam



Lite-Deck® from **Benchmark Foam** is the solid concrete alternative for conventional floors, roofs and decks in commercial, industrial or residential applications. It offers simplicity in construction, and safety, quietness and energy efficiency for the home or business owner.

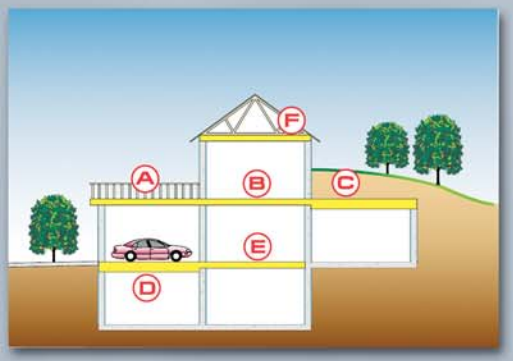
When you choose Lite-Deck® by Benchmark Foam, you receive a superior and versatile product from a licensed Midwestern manufacturer with the only **On-Time Guarantee** in the industry, combining the best in quality, service and value for you and your customers.

BENCHMARK FOAM INC.

Quick response is our guarantee.

On-Time Guarantee:

Benchmark Foam knows that your business depends on our product arriving on time. Our service response is so dependable we back it up with Benchmark Foam's On-Time Guarantee. Your product will be shipped and arrive by the agreed-to arrival date or we will ***discount your invoice 10 percent.*** *We work to accommodate customer needs, giving you confidence when you place an order, even if it needs to be rushed. And we do not have truckload quotas, so no matter how large or small, your order will be shipped on time.*



Lite-Deck® Uses:

A. Decks and Patios

B. Multi-Story Floor

C. Earth Covered Home Roof

D. Garage Floor

E. Home or Apartment Floor

F. Concealed Safe Ceiling

LITE-DECK® BENEFITS

FAST AND SIMPLE

The Lite-Deck® system is a lightweight, stay-in-place form made of Expanded Polystyrene (EPS), providing structural strength and quality insulation in one step for site-cast or precast concrete floors, roofs and decks for commercial, industrial and residential uses.

Built-in attachment rails make installation faster and the EPS forms become part of the construction, eliminating the need to strip the forms. The light weight of the forms means Lite-Deck® requires less shoring than conventional wood decking systems. The integrated steel studs are used both as part of the shoring and as furring strips to which interior finishes can be attached after the concrete is cured.

STRONG AND INSULATING

Lite-Deck® uses a common joist design that can easily be modified on site to accommodate any reinforcing steel requirements. The 2, 4 and 6-inch Top Hats can be used to quickly increase joist depth.

Lite-Deck's solid reinforced concrete joists and cover is perfect for safe room design and has been recognized by the Federal Emergency Management Agency (FEMA) to be effective in that use when combined with reinforced concrete or masonry walls.

Lite-Deck® produces nominal insulating values of R-30 or higher, making it energy efficient for home and business owners. The insulated concrete also reduces noise levels to a whisper.

VERSATILE

Lite-Deck® can be engineered to clear spans of 40 feet or more, and can also be used in sloped or gabled roof configurations to create open, vaulted room designs. Lite-Deck® is also ideal for radiant (in-floor) heat applications.

INSTALLING LITE-DECK® STEP BY STEP

Lite-Deck® makes concrete floors, roofs and decks fast and simple to install. They combine easily with many structural wall building methods to create a safe, quiet and energy-efficient building for any application.

Refer to photos at right

1) Set the Shoring
2) Install Lite-Deck® Bases
3) Install Lite-Deck® Top Hats
4) Pour Concrete
5) Install Interior and/or Exterior Finishes

INSTALLER RESPONSIBILITIES

Shoring and Bracing – Installer is responsible for the design and correct installation of shoring for the forms in accordance with the latest ACI (American Concrete Institute) 347R "Guide to Formwork for Concrete" design chapter.

Reinforced Concrete – Installer is responsible for placement of all reinforcing steel in accordance with the latest ACI 318 "Building Code Requirements for Reinforced Concrete" and latest CRSI (Concrete Reinforcing Steel Institute) standards.

Concrete Placement – Installer is responsible for compliance with latest ACI codes: 614 (handling), and 301 and 306 (cold and hot weather concrete placement).

Any variance from ACI or CRSI standards must be certified in advance by a structural engineer who is licensed for the job site's location and specifications.

MANUFACTURER DISCLAIMER

The material shown in this brochure has been prepared as a general guideline for estimating purposes only. While it is in accordance with recognized engineering principles and sound judgment, **this brochure is not to be used in lieu of job-specific designing provided by a licensed structural engineer, whose requirements shall prevail in all cases. The information disclosed in this brochure is subject to approval by the local building code authority or a structural engineer who is trained and licensed to interpret the information shown.** Benchmark Foam and Lite-Form Technologies (including management, employees and representatives) do not make any warranty, guarantee or representation, expressed or implied, for the direct or indirect damages arising from the use of the information shown.

GENERAL SPECIFICATIONS

6-inch Base Section - 1.25 lb. Nominal Density. Expanded Polystyrene (white), modified bead. See "Insulation Properties" chart for other specifications.

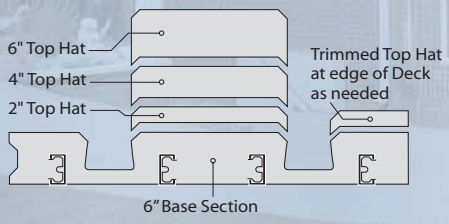
Top Hat Sections - .75 lb. Nominal Density. Expanded Polystyrene (white), modified bead. See "Insulation Properties" chart for other specifications.

Stiffeners - 18-gauge steel channel, continuous every 12 inches.

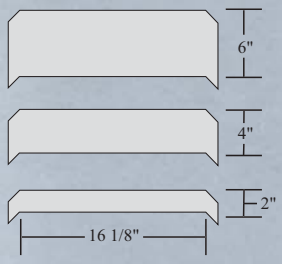
Nominal R-Value - R-30 calculated, 6-inch Base Section.

Dimensions - To provide load-bearing strength for a wide range of applications, Base Sections and Top Hats are provided which, when combined, produce full concrete joist depths over 6 inches. **A minimum 2-inch thick cover is required to provide full joist depth for each application.** Base Sections are provided to within 1 inch of length specified. Top Hat Fillers are provided in 8-foot lengths. *In buildings where people normally work, reside or assemble, polystyrene concrete forms must be fully protected from the interior of the building by a fire resistant material such as .5-inch gypsum board (drywall) or the equivalent.*

Use <u>one</u> Top Hat or <u>combine them</u> to produce engineered concrete joists beyond 6 inches deep.



Profile - Top Hats

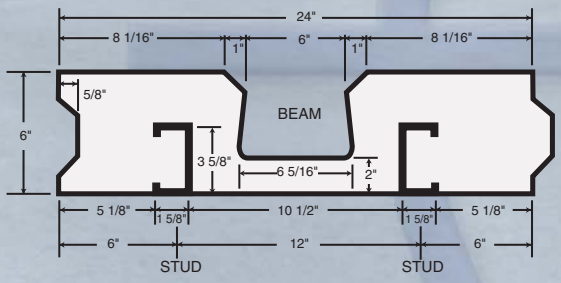


LITE-DECK® INSULATING PROPERTIES

Property (1)	Units	ASTM Test		
Thermal Conductivity "K Factor"	BTU/(hr) (sqft) (°F)	C177 or C518	@ 25°F	.227
			@ 40°F	.238
			@ 75°F	.263
Thermal Resistance "R-Value" (2)	One inch thickness	C177 or C518	@ 25°F	4.40
			@ 40°F	4.20
			@ 75°F	3.80
Compressive Strength (3)	psi	D1621	@10%	13
Flexural Strength (4)	psi	C203	@ 5%	32
Tensile Strength	psi	D1623	–	17
Shear Strength	psi	D732	–	23
Water Vapor Permeance, max. Perm.	ng/Pa•s•m²	E 96	–	3.5
Absorption by Volume, max.	%	C272	–	<3.0
Capillarity	–	–	–	None
Coeff. of Thermal Expansion	(in/(in) °F)	D696	–	0.000035
Max. Service Temperature	°F	–	Long-Term	167
			Intermittent	180
Flame Spread max. thickness 6" (5)	–	UL®(BRYX)	–	<20
Smoke Development (5)	–	UL®(BRYX)	–	<300

(1) All values shown are representative values for one inch (1") thick material based on data from Flint Hills Resources, Styrochem International, NOVA Chemical Corporation and BASF Corporation. Specifications Reference ASTM C578-00. (2) Federal Trade Commission Ruling: Use the 75 F R-Value when calculating R-Values for residential construction. (3) Value at yield or 10%, whichever comes first. (4) Value at yield or 5% which ever comes first. (5) Do not expose EPS to open flames or other direct or indirect high temperature ignition sources. Failure to comply may result in personal injury or property damage.

Profile of 6-inch deep section



Also available in 4-foot double-wide style

Benchmark Foam is a Lite-Form Technologies licensed manufacturer.

BENCHMARK FOAM INC.

Quick response is our guarantee.

3200 9th Ave. SE • Watertown, SD 57201

Phone: 605-886-8084 • 800-658-3444 • Fax: 605-886-8099

www.BenchmarkFoam.com