

This is an abbreviated guide and is not intended as a substitute for the Long Form CAFCO HEAT-SHIELD Application & Installation Manual. Applicator shall completely and fully read and understand the Long Form Application & Installation Manual prior to applying this product.

PUMP REQUIREMENTS:

Only approved equipment that consists of a hopper, feed auger, carding system, airlock and blower must be used.

APPROVED EQUIPMENT:

Unisul - All Pneumatic Fireproofing Machines
Contractors Consulting Service - All BOSS Machines.
Nordic Machinery – Blaze King MS-1

EQUIPMENT SETTINGS:

Unisul - Carding boxes or slide gates should be fully opened.
All BOSS Machines - Discs should be set at position 12.
Blaze King MS-1 - Discs should be set at position 13 (max pump speed not to exceed 80%).

When feeding material, empty only one bag of material into machine hopper at a time. When the hopper is one quarter full (three-quarters empty), empty next bag into the hopper.

REQUIRED NOZZLE:

2-1/2 in. (64 mm) I.D. High output Air/Water nozzle manufactured by Hydra-Cone. The use of an expander sleeve is recommended to provide an even spray pattern.

Note: A 10 to 20 cfm (280 to 570 liters/min) air compressor providing 40 psi (2.7 kg/cm²) air pressure at the nozzle is required when using an Air/Water nozzle.

WATER RATIO:

Approximately 0.75 :1 water to material ratio, by weight. Water pressure should be a minimum of 65 psi (4.4 kg/cm²) as measured at the nozzle. Refer to the CAFCO HEAT-SHIELD Application and Installation Manual for methods to determine water to product ratios.

WATER BOOSTER PUMP:

It is mandatory that a water booster pump with a 55 gal. (208 L) reservoir tank is used to ensure proper water pressure and volume.

HOSE SET-UP:

TRANSFER HOSE must be smooth interior, rubber or plastic with a 2-1/2 in. (64 mm) or 3 in. (76 mm) I.D. Hose must be reinforced to resist kinking or cracking, and must resist static build up. Flexible hose length should not exceed 250 ft. (76 m).

METAL STANDPIPE with a 2-1/2 in. (64 mm) to 3 in. (76 mm) I.D. must be used when transfer height exceeds 3 stories or 36 ft. (11 m) or when total length (horizontal plus vertical) of material hose were to exceed 250 ft. (76 m).

LIGHTWEIGHT FLEX HOSE (WHIP HOSE) must be smooth interior, rubber or plastic with a 2 in. (51 mm) or 2-1/2 in. (64 mm) I.D. Hose must be lightweight and flexible to allow mobility at the nozzle, and must resist static build up. The maximum whip hose length should not exceed 25 ft. (8 m).

NOZZLE DISTANCE:

24 in. (600 mm) to 36 in. (900 mm) from the substrate.

POLEGUN:

Maximum length not to exceed 12 ft. (3.7 m).

APPLICATION & THICKNESS:

CAFCO HEAT-SHIELD may be applied up to a 3 in. (76 mm) maximum thickness without the use of additional adhesive or mechanical reinforcement. When applying CAFCO HEAT-SHIELD at a thickness of 2 in. (50 mm) or greater, it is recommended that an initial coat of 1 in. (25 mm) to 1-1/2 in. (38 mm) be applied, allowing it to dry overnight, followed by subsequent coats. **For all applications greater than 3 in. (76 mm) see Adhesive Admix under the "R-20" System section below.**

WATER OVERSPRAY:

It is mandatory that the CAFCO HEAT-SHIELD be over sprayed with water before the end of the work day.

APPLICATION TEMPERATURE:

A minimum substrate and ambient temperature of 40°F (4°C) shall be maintained prior to, during and a minimum of 24 hours after the application.

SURFACE PREPARATION & ADHESIVE:

Ensure surfaces are clean and free of dirt, oil, grease, loose mill scale, paints/primers and any other materials that may impair adhesion. For applications to primed steel, contact Isolatek Technical Services Department. **Note: DO NOT APPLY CAFCO HEAT-SHIELD DIRECTLY TO ANY PAINTED SURFACE. All substrates, with the exception of metal lath require the use of ISOLATEK® HEAT-SHIELD Adhesive. Refer to the CAFCO HEAT-SHIELD Application & Installation Manual for specific requirements.**

VENTILATION:

Provide a minimum of 4 complete air exchanges per hour until the material is dry.

“R-20” SYSTEM

It is possible to achieve a thermal resistance of '20' without mechanical reinforcing. This may be attained with a total thickness of 5.2 in. (132 mm) of CAFCO HEAT-SHIELD:

1. APPLICATION THICKNESS

When spraying over 3 in. (76 mm), it is necessary to include ISOLATEK HEAT-SHIELD Adhesive in the spray water, producing an "Admix". All surfaces to be sprayed must be pre-wet with HEAT-SHIELD Adhesive (until the adhesive begins to drip) prior to application of HEAT-SHIELD. While the adhesive is still tacky, apply the first 3/4 in. (19 mm) to 1 in. (25 mm) and allow to dry at least 24 hours. Continue to build in 1-1/2 in. (38 mm) to 2 in. (50 mm) layers, until the desired thickness is achieved with at least 24 hours between applications.

2. ADHESIVE ADMIX

Required when thicknesses exceed 3 in. (76 mm). The admix is prepared by thoroughly mixing 6 parts potable water to 1 part HEAT-SHIELD Adhesive. Apply at a ratio of 2.7 U.S. gallons (10.2 L) as mixed per bag of HEAT-SHIELD to cover 50 board feet (4.65 sq m at 25 mm thick).

WATER TO FIBER RATIO & PRODUCTIVITY:

1. DETERMINE THE MAXIMUM WATER OUTPUT:

- Establish the maximum water quantity by opening the water valve to the fully open position and directing the spray into a 5 gal (18.9 L) pail** for 1 minute.
- Measure the height of the water in inches.
- Compare the height of the water in the pail to the chart below and determine the maximum bag per hour rate.

2. DETERMINE THE CAFCO HEAT-SHIELD FEED RATE:

- Measure the time it takes to spray one bag. This is done by spraying material until the hopper is nearly empty. Material should be at the level of the top of the auger in hopper bottom.
- Turn feed off, empty one bag into hopper.
- Turn feed on and start stopwatch. When the material reaches the top level of the auger (the initial starting point) stop the stopwatch and record the time. e.g. Assume it takes 2 minutes 30 seconds to spray 1 bag.
1 bag ÷ 2.5 minutes x 60 min./hr. = 24 bags/hr.

3. Adjust the material feed rate to match the measured water level.

**The 5 gal (18.9 L) pail is similar to the one used for CAFCO BOND-SEAL or HEAT-SHIELD Adhesive. Using pails with different dimensions may give erroneous results.

Inches of Water/minute	Time to Spray One Bag	Bags/Hour
0.8	8 min.	7.5
1.0	6 min. 40 sec.	9.0
1.2	5 min. 43 sec.	10.5
1.3	5 min.	12.0
1.5	4 min. 27 sec.	13.5
1.7	4 min.	15.0
1.8	3 min. 38 sec.	16.5
2.0	3 min. 20 sec.	18.0
2.2	3 min. 05 sec.	19.5
2.3	2 min. 51 sec.	21.0
2.4	2 min. 40 sec.	22.5
2.5	2 min. 30 sec.	24.0

NOTE: Only the listed equipment, nozzles and procedures are approved for applying CAFCO HEAT-SHIELD. Deviations from these requirements will result in product not meeting claims as published in the literature. **For additional information, please contact the Technical Service Department.**



Isolatek International provides passive fireproofing materials under the CAFCO® trademark throughout the Americas and other markets and under the ISOLATEK® trademark throughout the world.

800.631.9600 or 973.347.1200
www.isolatek.com | technical@isolatek.com

