



DETRICK PYROSCAT*
For Fireproofing Structural Steel

**PLAINTIFF'S
EXHIBIT**

MHD-206

Detrick Pyroscat is a special formulation of high-temperature aggregates, asbestos fibers, hydraulic binder and other materials. These ingredients are factory-blended to a uniform dry mixture that is ready for application after mixing with water at the job site. Pyroscat is adapted to application by spraying, casting and trowelling techniques, depending on job conditions.

USES: Pyroscat provides a lightweight, fire-retardent protective treatment for structural steel columns, beams, tower skirts, LP gas tanks, and other exposed applications in refineries and chemical plants. Pyroscat sets up to a hard, durable sheath capable of withstanding for hours the 2000 F flame temperatures and high-pressure water streams commonly encountered in industrial fires.

RECOMMENDED
THICKNESSES:

Fire-retardent materials are customarily rated in Hours, based on a given thickness used and on the method of application. For example, fire ratings for steel columns represent the number of hours required for heat from a "standard fire" to penetrate the protective treatment as applied, and to increase the steel column temperature to a critical level (1200 F). The thermal conductivity and heat capacity of a material are of some importance in an ASTM Fire Test. But the ability of the complete treatment to withstand thermal shock without destruction is one of the most significant factors in determining practical fire ratings in industrial installations.

The Pyroscat thicknesses recommended below were determined by physical tests on a series of sprayed, cast and trowelled applications. Tests included direct exposure to 100 psi hose pressure, both before and after subjecting the Pyroscat treatment to severe flame conditions.

<u>Thickness of Pyroscat</u>	<u>Approx. Fire Resistance Rating</u>
1"	2 Hours
1-3/4"	3 Hours - (UL-R-3960)
2"	4 Hours

ADVANTAGES OF
DETRICK PYROSCAT:

Safer While Fighting Fires. . . . Many concrete aggregates and common bricks used for fireproofing purposes will spall and shatter when they are heated and subjected to a hose stream. Pyroscat remains virtually unaffected after direct flame exposure and saturation with a 100 psi hose stream.

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ENGINEERED INSULATIONS FOR EVERY HEAT ENCLOSURE

ADVANTAGES OF
DETRICK PYROSCAT
(CONTINUED):

Lighter Weight. Pyroscat weighs less than 55 lbs./cu. ft. in place, compared to approximately 150 lbs./cu. ft. for conventional concrete fireproofing. Excess dead weight is eliminated. As usually sprayed or trowelled in a protective sheath, Pyroscat weighs about 1/10 as much as formed concrete - at equivalent thickness per running foot.

Easier to Apply. Detrick Pyroscat is specially formulated to permit installation by spray, trowel and casting techniques, depending on local job conditions. No other fireproofing material is as versatile from an application standpoint. Employs conventional supporting materials and placement. Only the one fireproofing material is required - no need for subsequent finishing layers nor heavy mastic coatings.

Durable and Weather-Resistant. Pyroscat develops great strength from its selected high-temperature aggregates and hydraulic-setting binders. It withstands continued cycles of saturated freeze-and-thaw weathering tests.

SUMMARY OF PHYSICAL PROPERTIES:

Coverage (Trowelled) 1.1 cu. ft./50 lb. bag

Material Required (Trowel Application) 45 lbs. per cu. ft.

Air-Cured Weight (After Hydration and Drying) . . 54.5 lbs. per cu. ft.

Compressive Strength - Air-Cured 1650 psi

Compressive Strength After Firing at 1500 F . . . 520 psi

Lineal Shrinkage - Air-Cured Less than 1%

Lineal Shrinkage After Firing at 1500 F 1.5%

Density After Firing at 1500 F 49.1 lbs. per cu. ft.

Fusion Temperature 2200 F

Thermal Conductivity (k) at 1000 F Mean Temp . . 1.50 Btu

Setting Time 4 to 6 hours

Mixing Water:

For Spray & Trowel Consistency 3-1/2 gal. water/50 lb. bag

For Casting Consistency 5 gal. water/50 lb. bag

Curing:

Pyroscat is a cementitious material and should be kept moist during the curing period of 72 hours or longer.