

**M.H. DETRICK COMPANY****TECHNICAL DATA****INSULATION DIVISION**

CLASS 16.1

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DATE October 1, 1963

**DECRETE\***  
**LIGHTWEIGHT CASTABLE INSULATION**

DECRETE\* is the name applied to a series of castable insulations composed of high temperature aggregates and binders, factory-blended under controlled conditions to provide an initial hydraulic set which will form a ceramic bond when heat is applied. Supplied in dry form, it is ready to mix with water in the field to provide the consistency desired for application by pouring, troweling or molding. DECRETE produces a strong lightweight mass which has high insulating qualities combined with heat resistance.

**WEIGHT VS. STRENGTH AND CONDUCTIVITY**

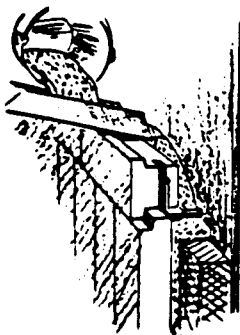
There is a definite relationship between density and strength - and density and conductivity - in materials of this type. For lowest heat transmission, the lightest weight, DECRETE 30, is selected. Conversely, for applications requiring greatest strength, DECRETE 50 would be used. DECRETES 30 and 40 have low thermal conductivity with high strength. DECRETE 40 provides an economical balance between structural strength and thermal qualities, hence, is used in most Arch and Wall constructions.

**USES**

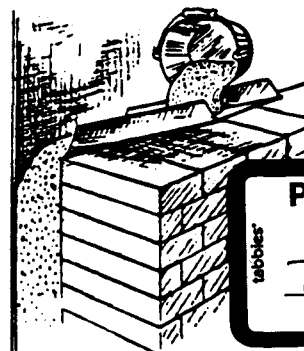
DECRETE is used principally as a back-up insulation. It can be poured between refractories and block type insulation, or between refractory and the exterior casing. It can be molded or cast into special shapes or can be used as a protective layer for furnace foundations and hearths. The various types of DECRETE are available on special order with acid-resistant qualities. Designated as DECRETE 30-AR, 40-AR and 50-AR, they are designed for specific job conditions.

**ADVANTAGES**

The use of DECRETE affords not only effective insulation at high temperature, but its method of application also provides a monolithic sealing layer against air infiltration or gas migration. The fact that all types of DECRETE are designed for easier pouring makes application economical. The different weights make it possible to select the right one for specific thermal conditions, whether it is necessary to provide high thermal qualities, high strength qualities, or the two combined.



DECRETE 40 poured in the cavity between refractory tile lining and exterior GRIPTEX block insulation.



DECRETE 40 used as a poured fill between brick wall and casing.

PLAINTIFF'S  
EXHIBIT

tabbies  
WV-012689

CE0113132

PLAINTIFF'S  
EXHIBIT

tabbies  
70209.00

\*Trade name of M. H. Detrick Company.

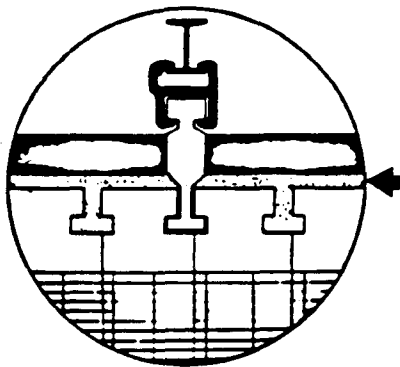
*Designed with the application in mind*

| <u>PHYSICAL PROPERTIES:</u>         | <u>DECRETE<br/>30</u> | <u>DECRETE<br/>40</u> | <u>DECRETE<br/>50</u> |
|-------------------------------------|-----------------------|-----------------------|-----------------------|
| Use Limit                           | 1600 F                | 2100 F                | 2100 F                |
| Fusion Temperature                  | 2200 F                | 2200 F                | 2300 F                |
| Material Requirements (lbs/cu. ft.) | 29                    | 38                    | 48                    |
| Compressive Strength-Air Cured      | 210 psi               | 820 psi               | 1500 psi              |
| Compressive Strength-Fired 1500 F   | 120 psi               | 350 psi               | 400 psi               |
| Shrinkage - Air Cured               | 0.5%                  | 0.3%                  | 0.12%                 |
| Shrinkage -Fired 1500 F             | 4.0%                  | 3.0%                  | 2.5%                  |
| Density-Air Dried (lbs/cu. ft.)     | 33                    | 44                    | 55                    |
| Density-After Firing (lbs/cu. ft.)  | 31                    | 38                    | 50                    |
| Conductivity (k) @ 500 Mean Temp.   | 0.85 Btu              | 1.00 Btu              | 1.40 Btu              |
| Conductivity (k) @ 1000 Mean Temp.  | 1.15 Btu              | 1.25 Btu              | 1.60 Btu              |
| Conductivity (k) @ 1500 Mean Temp.  | 1.45 Btu              | 1.50 Btu              | 1.80 Btu              |

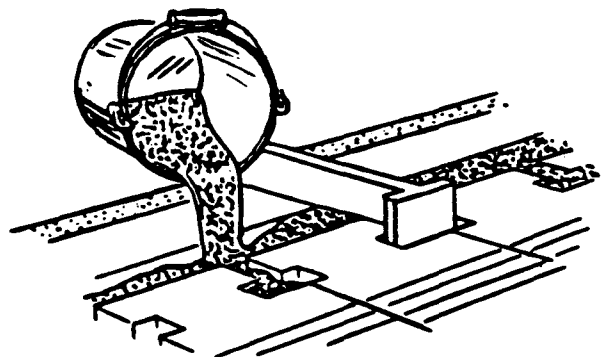
#### MIXING WATER:

Water requirements vary with the types of materials against which DECRETE is placed. Surfaces having low suction or absorption (steel, glazed tile, etc.) need less "water of convenience" in placement. With materials such as soft brick or certain absorbent insulating blocks, it is often necessary to use additional mixing water. The recommended water requirements noted below in gallons, are typical:

|                        |         |         |         |
|------------------------|---------|---------|---------|
| Damp Pack Consistency  | 5.7/50# | 3.0/50# | 2.4/50# |
| Trowelling Consistency | 6.3/50# | 3.6/50# | 3.2/50# |
| Pouring Consistency    | 7.1/50# | 4.8/50# | 4.5/50# |



DECRETE 40 used as a sealing layer



DECRETE 40 used as a sealing layer between GRIPTEX block insulation and refractory tile in a Detrick suspended wall construction.