M. H. DETRICK COMPANY	CLASS 16.2
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INSULATION DIVISION	DATE October 1, 1963

CALCRETE*
LIGHTWEIGHT INSULATING CASTABLE

CALCRETE* is the name applied to a series of castable insulations, composed principally of perlite base aggregates and lumnite cement 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. CALCRETE produces a strong lightweight mass which has good insulating qualities combined with high heat resistance.

ADVANTAGES

- Light in weight--lighter than firebrick or structural concrete; enables savings in costs of supporting steel work.
- Easy to use--smooth working, flexible application; can be cast, gunned, poured, trowelled, or extruded into place.
- High insulating properties--reduces heat transfer as compared to dense refractories.
- Low thermal conductivity--provides protection for steel work and concrete foundation against devastating temperatures.
- Drying and firing shrinkage negligible.
- Resists spalling and/or thermal shock; relatively low in permeability.
- Monolithic in construction--produces air and gas seal; permits more efficient furnace control.
- Excellent coverage--greater per unit weight than with dense castables.
- Excellent re-cycling properties.

RECOMMENDED USES

CALCRETE 30 (3)	CALCRETE 40 (4)	CALCRETE 50 (5)

The numbers (3, 4, 5) indicate the recommended choice of product depending on the type and degree of service.

Linings, ducts, breeching, stacks (3, 4, 5)
Back-up for heavy refractories (4, 5)
Boiler water wall backing (3)
Boiler convection areas (3, 4)
Refinery heaters, lines and vessels (3, 4)
Access door linings (4, 5)
Observation door ports (5)
Special shapes (4, 5)
Heat-treating furnace bases (4)
Dampers (4, 5)
Hearths (5)
Air preheaters (3)
Car tops (5)
Combustion Chambers (5)
Domestic heating burners (5)
Industrial ovens (3, 4)
Ash hoppers (4, 5)
Patch work (5)

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CE/HI (F) 34520

PLAINTIFF'S EXHIBIT tabbies WV-012685

PLAINTIFF'S EXHIBIT tabbies 70205.00

PHYSICAL PROPERTIES:	CALCRETE 30	CALCRETE 40	CALCRETE 50
Use Limit	1800 F	2100 F	2200 F
Fusion Temperature	2200 F	2250 F	2350 F
Material Requirements (lbs/cu. ft)	32	44	52
Compressive Strength-Air Cured	150	800	1100
Compressive Strength-Fired 1500 F	150	400	600
Shrinkage - Air Cured	Nil	Nil	Nil
Shrinkage - Fired 1500 F	1.6	1.0	0.5
Density-Air Dried (lbs/cu. ft.)	38	55	63
Density-After Firing (lbs/cu. ft.)	34	48	55
Conductivity (k)@ 500 Mean Temp.	0.90 Btu	1.25 Btu	1.60 Btu
Conductivity (k) @ 1000 Mean Temp.	1.20 Btu	1.50 Btu	1.75 Btu
Conductivity (k)@ 1500 Mean Temp.	1.45 Btu	1.70 Btu	1.95 Btu

MIXING WATER

Water requirements vary with the types of materials against which CALCRETE 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	6.0/50#	3.0/50#	2.5/50#
Trowelling Consistency	6.5/50#	3.5/50#	3.0/50#
Pouring Consistency	7.0/50#	5.0/50#	4.5/50#

CAUTION

CALCRETE should be used within 30 to 90 minutes of mixing. Delay in placement will lower the final strength developed. Excessive delay will permit material to set before placement.

STORAGE

Store in a cool, dry location until ready to use.