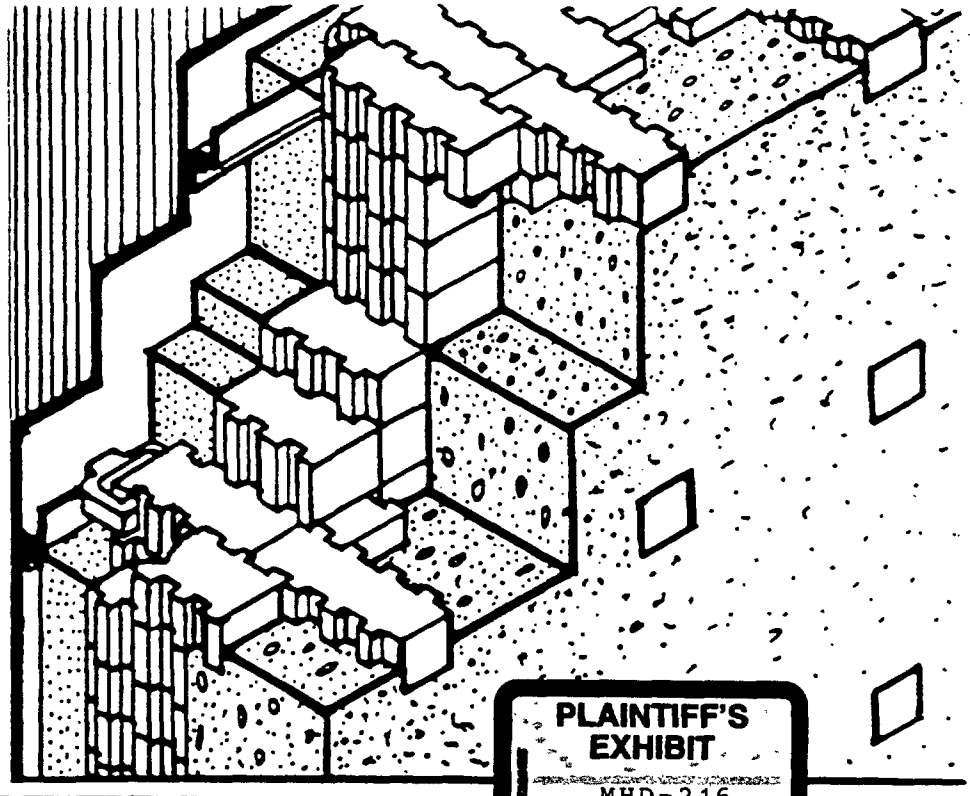
The Detrick Composite Wall . . . a new approach to refractory design, performs three specific functions required of modern heat enclosure walls.

It satisfies the physical and thermal needs of the enclosure.

- It is structurally strong and will withstand all loads imposed upon it.
- It has economical life and contributes to overall operating efficiency of the unit.

A wall constructed of a single refractory material cannot meet these requirements. Recognizing this fact, Detrick Composite Wall brings a new standard of performance, life and maintenance economy to refractory wall construction.



PLAINTIFF'S EXHIBIT
MHD-216

DETRICK COMPOSITE WALL

FUNDAMENTALS OF DETRICK COMPOSITE WALL DESIGN



FIRE FACE

The fire face of monolithic refractory material can be of a type, grade and thickness to suit service conditions. Easy to patch and repair.

CORE

Interlocking tile construction, employing a minimum of shapes, provides a stable core which is securely tied to the structure and firmly anchors the fire face refractory.

COLD FACE

Insulating castable, poured between casing and core wall, efficiently insulates the construction, fills all voids around anchors, and permits speedy, economical placement.

The Composite Wall is adapt able to your conditions . . . le Detrick suggest a wall desig tailored to the goal of longe life, greater efficiency an lower maintenance.

DETRICK Heat ENCLOSURES

111 W. WASHINGTON ST.
CHICAGO 2, ILLINOIS

M. H. DETRICK CO.

CLEVELAND 15 • 937 SCHOFIELD BLDG
DETROIT 38 • 10600 PURITAN AVENUE
HOUSTON 25 • 7234 W. HOLCOMBE BLVD
NEW YORK 7 • 50 CHURCH STREET
PHILADELPHIA 29 • 4343 E. RIVER DR
PITTSBURGH 22 • 1602 OLIVER BLDG

COPYRIGHT 1962 M. H. DETRICK CO., CHICAGO 2, ILL., PRINTED IN U.S.A.

DETRICK NEWS FLASH

XTRA IRON AND STEEL SHOW NUMBER EXTRA

DETRICK INTRODUCES NEW TYPE OF REFRACTORY MATERIAL

GUN-APPLIED CERAMIC PLASTIC FIREBRICK ADDS TO ECONOMY AND EFFICIENCY OF DETRICK COMPOSITE WALL

CHICAGO — Development of a new type of plastic firebrick has added to the already impressive advantages of the Detrick Composite Refractory Wall described on the reverse side of this bulletin.

Unlike plastic refractories used up to now, the new product is an air-set full ceramic material processed in a special way to permit gun application of the fire face of the Composite Wall.

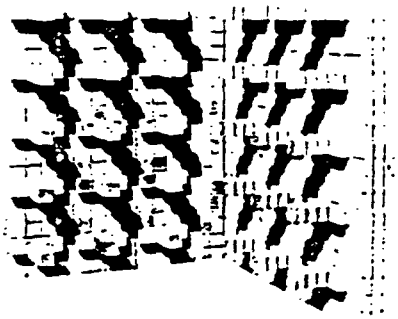
Gun application effects a substantial saving of time and labor costs both in the original construction and in repair and rebuild operations. The ceramic nature of the material gives it physical characteristics similar to those of the preburned refractory tile to which it is applied, thus eliminating wall cracks and other failures caused by variables in the shrinkage and expansion properties of two different types of material.



Gun-applied ceramic plastic firebrick effects a major saving in construction time, repair and rebuild costs.

The design of the Detrick Composite Wall has been revised to take full advantage of the new type plastic firebrick. In the current design, single bonding tile replace the three tile formerly employed. The result is fast, uniform and thorough gun application—still another contribution to the time and labor saving made possible by the latest Detrick advance in refractory construction.

Full information may be obtained by contacting M. H. Detrick Co. at any of the offices shown on the reverse side.



Single anchor tile facilitate fast and thorough gun application.

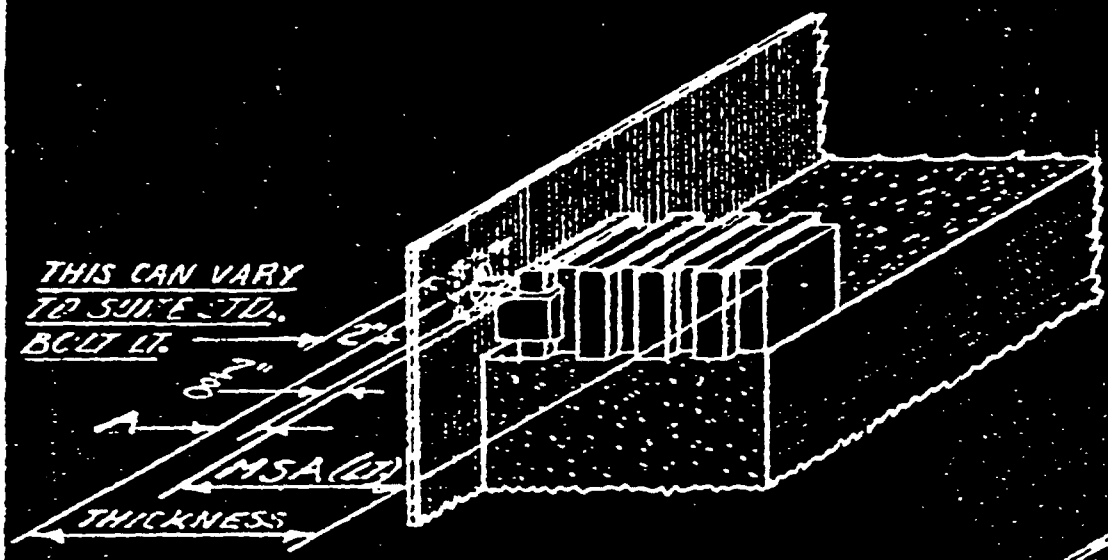


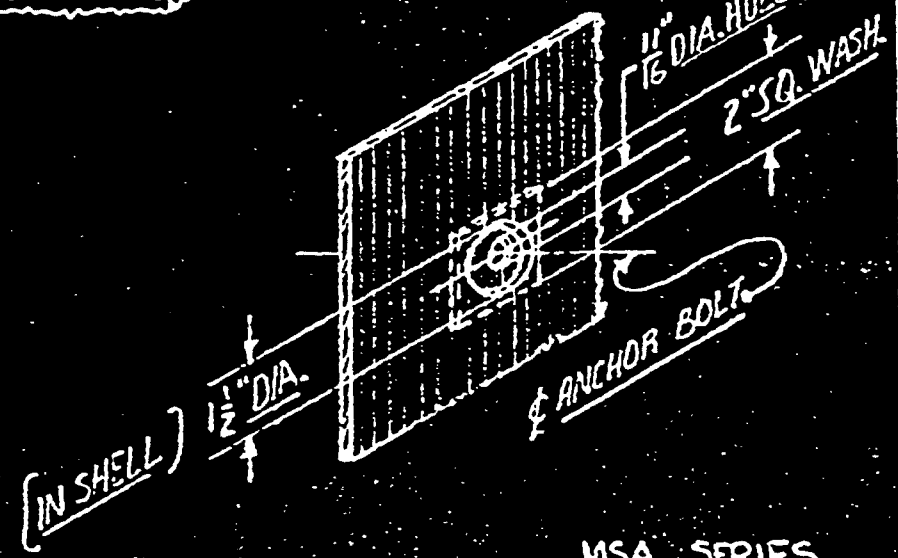
Full ceramic plastic firebrick eliminates failures caused by variables in shrinkage and expansion properties of different types of materials.

M. H. DETRICK CO. CHICAGO, ILL.

CUSTOMER MSA TILE SOLID PLASTIC WALL ANCHOR REF. DWG.

LOCATION	DRAWN BY	J.L. JANCIK	DATE	NOV. 5, 1962	SCALE	





A = (T) THICKNESS − (MSA (SERIES) + 7/8")

BOLT LENGTH = T − [MSA (SERIES) + 7/8"] + 2"

EXAMPLE:

T = 13 1/2" MSA = 10" ∴ 13 1/2" − 10 7/8" = 2 5/8" + 1 3/8" = (4" LG)

A = 13 1/2" − (10" + 7/8")

A = 2 5/8"

MSA SERIES
MSA-2 = 7 1/2"
MSA-3 = 10"
MSA-4 = 12 1/2"

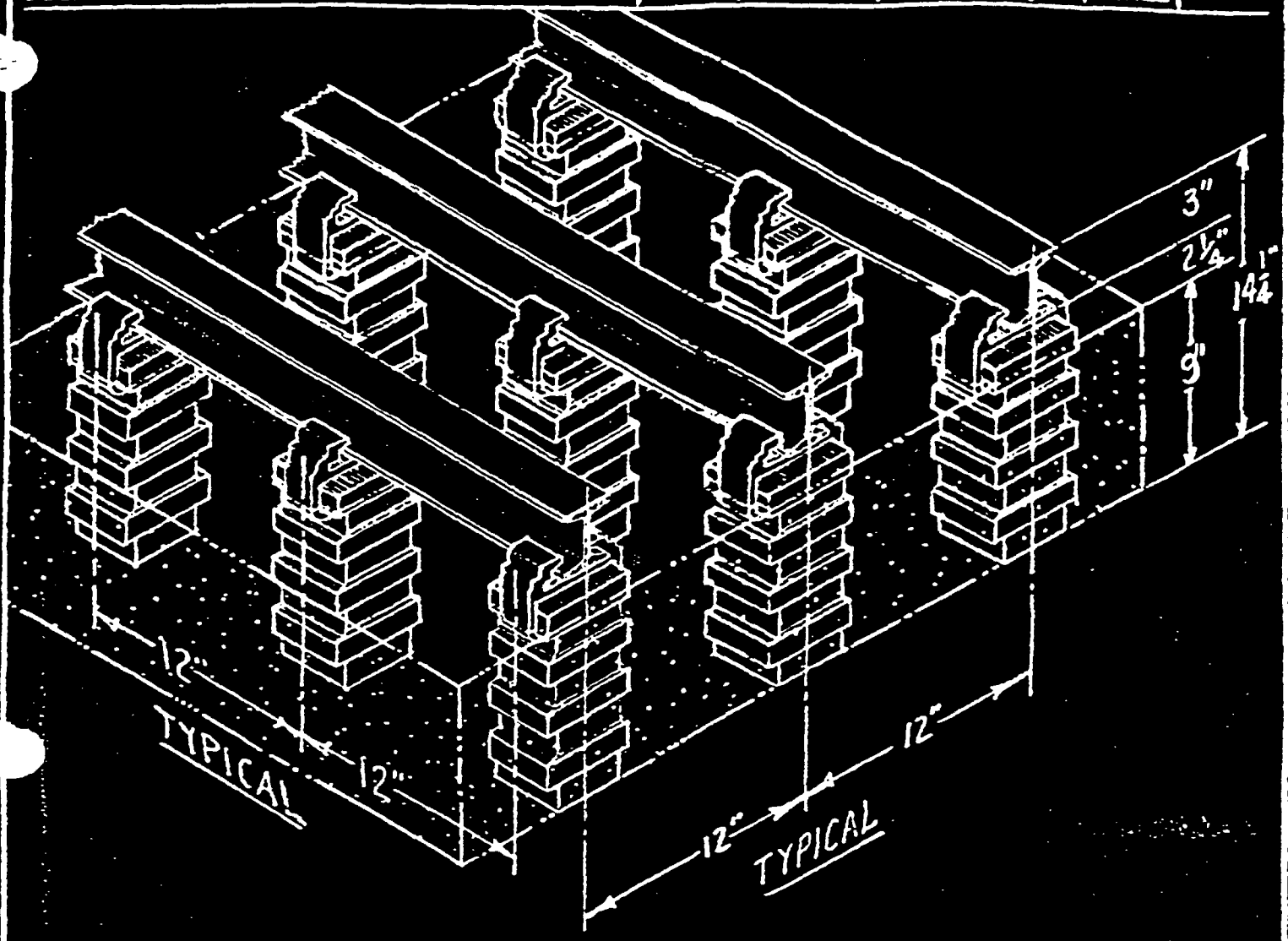
THIS DRAWING IS THE PROPERTY OF THE M. H. DETRICK CO. AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE COPIED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTEREST OF THE M. H. DETRICK CO. AND IS TO BE RETURNED UPON REQUEST.

SKETCH NO.- 11562

M. H. DETRICK CO. CHICAGO, ILL.

CUSTOMER MSA-TILE APPLIED TO FLAT-SUSPENDED ROOF REF. DWG.

LOCATION | DRAWN BY J.L. JANCIK | DATE JAN. 16, 1963 | SCALE



3" Ic 5.7*

I 3 H 7 CSTG.

MSA-3

9" SUPER 35 PLASTIC

THIS DRAWING IS THE PROPERTY OF THE M. H. DETRICK CO. AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE COPIED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTEREST OF THE M. H. DETRICK CO. AND IS TO BE RETURNED UPON REQUEST.

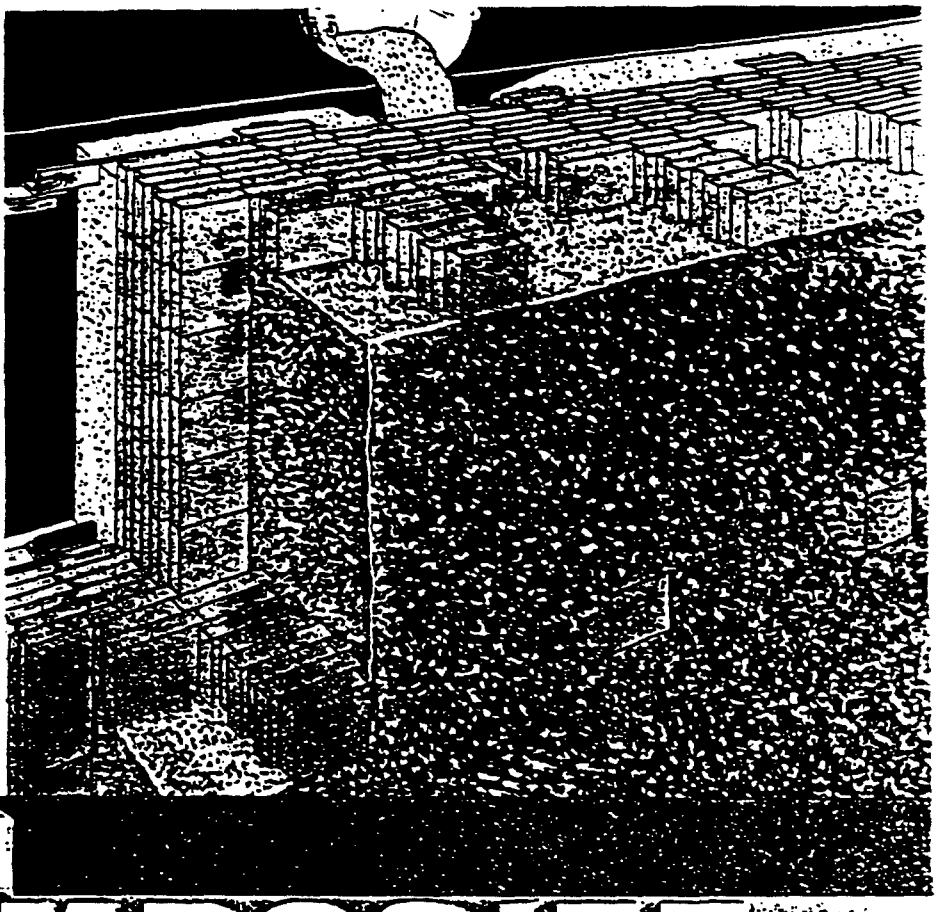
Form 9—500—11-62

SKETCH NO.- 11663

The Detrick Composite Wall . . . a new approach to refractory design, performs three specific functions required of modern heat enclosure walls.

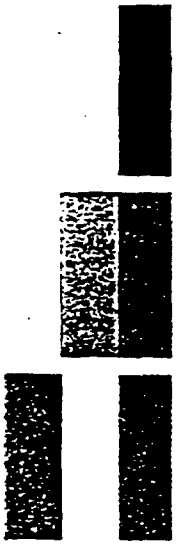
- It satisfies the physical and thermal needs of the enclosure.
- It is structurally strong and will withstand all loads imposed upon it.
- It has economical life and contributes to overall operating efficiency of the unit.

A wall constructed of a single refractory material cannot meet these requirements. Recognizing this fact, Detrick Composite Wall brings a new standard of performance, life and maintenance economy to refractory wall construction.



DETRICK COMPOSITE WALL

FUNDAMENTALS OF DETRICK COMPOSITE WALL DESIGN



FIRE FACE

The fire face of monolithic refractory material can be of a type, grade and thickness to suit service conditions. Easy to patch and repair.

CORE

Interlocking tile construction, employing a minimum of shapes, provides a stable core which is securely tied to the structure and firmly anchors the fire face refractory.

COLD FACE

Insulating castable, poured between casing and core wall, efficiently insulates the construction, fills all voids around anchors, and permits speedy, economical placement.

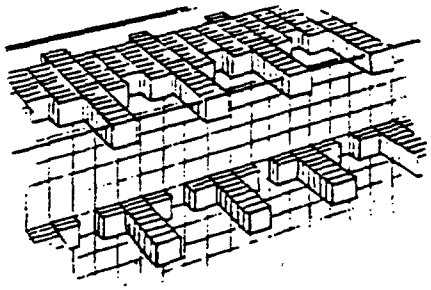
THREE LAYERS WORKING TOGETHER TO LENGTHEN LIFE OF HEAT ENCLOSURE WALLS...MINIMIZE MAINTENANCE...PREVENT FAILURE

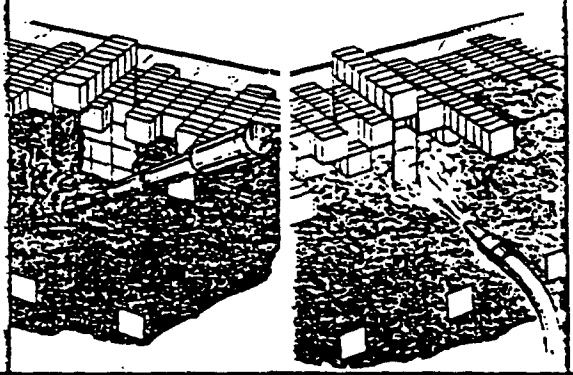
See the reverse side for the advantages of Composite Wall

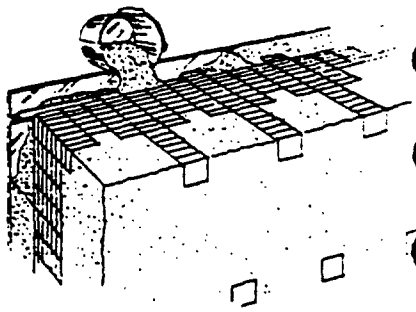
ADVANTAGES OF **DETRICK** COMPOSITE WALL

FIRMLY ESTABLISHED ADVANTAGES . . . FULLY FLEXIBLE DESIGN

The main purpose of the illustrations in this bulletin is to show the principles of the Detrick Composite Wall. The design of the wall is flexible in all of its components . . . adaptable to any service conditions. The fire face, for example, may be of ram-type Plastic Firebrick or of the newly developed gun-applied ceramic Plastic Firebrick. Whatever your conditions, the Detrick engineering staff stands ready to recommend designs, materials and application methods best suited to the economic and functional requirements of the job. In all cases the Detrick Composite Wall principle assures these important advantages.







1 GREATER STRENGTH AND STABILITY

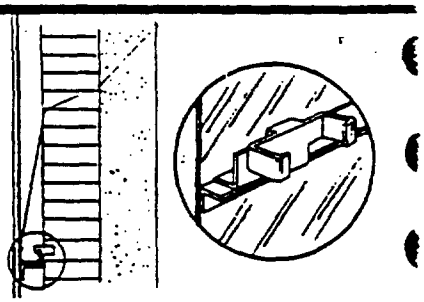
The interior layer of the Composite Wall, ructed of precision-controlled .k preburned tile . . . brings a new measure of strength, stability and permanence to the overall refractory structure. The interlocked tile, treaded on all four sides, forms the structural core of the wall . . . ties its three layers into a single, sturdy, shock-resistant unit.

2 LONGER LIFE . . . LOWER MAINTENANCE

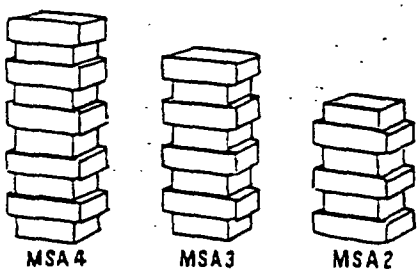
The monolithic fire face, or surface layer, of the Composite Wall is of Detrick Plastic Firebrick, either ram or gun type. Because of its position and thickness it develops a full ceramic bond for the entire depth. Easily rammed or gunned in place . . . flexible . . . simple and fast to repair. Jointless . . . no chance for penetration of slag . . . no starting point for abrasion or erosion. Full refractory strength with greater resistance to spalling.

3 A HEAT-TIGHT WALL

The exterior, or insulating layer, of the Composite Wall consists of Detrick Insulating Castable poured between furnace casing and the the core layer. Fast, accurate placement of the insulating layer . . . complete filling around metal ties and anchors. A heat-tight wall, sealed against air and gas leakage.



4 INTERCHANGEABLE . . . LESS TILE INVENTORY



This universal tile shape can be put to many uses. Besides its use in the Composite Wall it is also used in the Multiple Support Arch and Wall constructions and as an anchoring and tie system in our Monolithic Refractory constructions.

The MSA tile are small in size for easy handling, and accurate sizing . . . the large rugged treads provide a tie with adjacent tile and positive anchoring of monolithic material. Standardization reduces inventory requirements with a savings in space, time and money.

5 INSURANCE AGAINST METAL ANCHOR FAILURE

Oxidation of metal ties, or anchors, caused by exposure to heat (one of the main causes of monolithic wall failure), is eliminated in the Composite Wall by placing all metal parts in the insulating layer or cool zone of the wall. Anchors extending into the hot zone are preburned refractory tile.

Let Detrick suggest a Composite Wall engineered to your conditions and requirements.

DETRICK Heat ENCLOSURES

111 W. WASHINGTON ST.
CHICAGO 2, ILLINOIS

M. H. DETRICK CO.

CLEVELAND 15 • 937 SCHOFIELD BLDG
DETROIT 38 • 10600 PURITAN AVENUE
HOUSTON 25 • 7284 W. HOLCOMBE BLVD
NEW YORK 7 • 100 CHURCH STREET
PHILADELPHIA 29 • 4343 E. RIVER DR
PITTSBURGH 22 • 1607 OLIVER BLDG

COPYRIGHT 1963 M. H. DETRICK CO., CHICAGO 2, ILL., PRINTED IN U.S.A.