

THERMOLAYER *Refractory* LINER

- SIMPLE - FAST**
- ANY CONTOUR ● LOW HEAT LOSS
 - REFRACTORY RESISTANCE
 - WIDE TEMPERATURE RANGE

**PLAINTIFF'S
EXHIBIT**

MHD-223

SPEEDY INSTALLATION

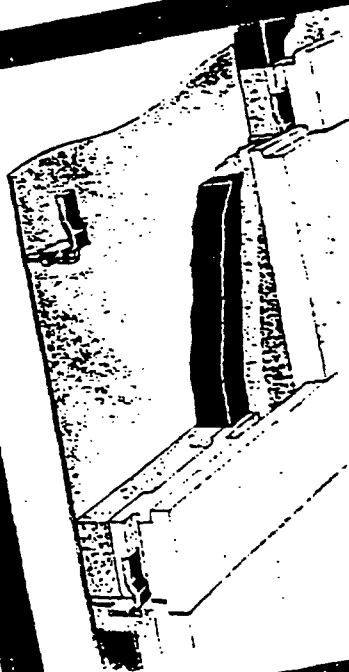
The simplicity of design makes possible fast installation of this construction without the use of forms whether applied to a steel cased or a buck stay supported structure. The refractory tiles are quickly hung on the supporting units, the block insulation set in place, and the castable layer poured; all simple, speedy operations.

LAYER CONSTRUCTION

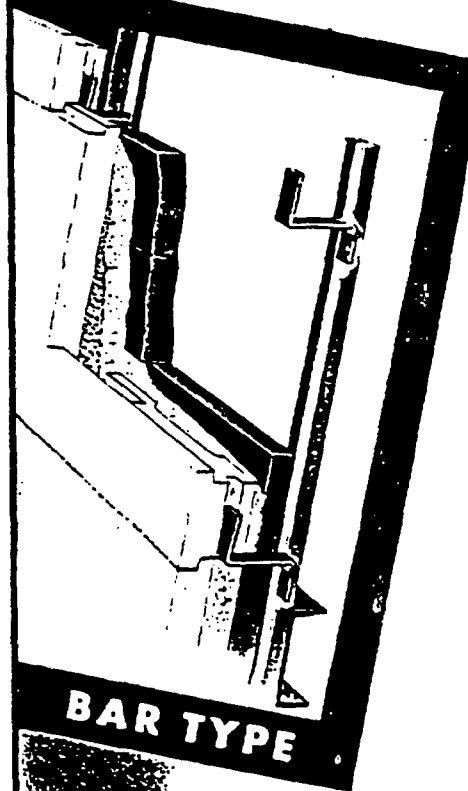
The outstanding characteristics of this design are embodied in the layer construction and the simplicity of its application. All the elements are supported and anchored to the structure. The result is an extremely flexible design that can be varied to suit the operating conditions of the unit. The fired refractory tile can be of a quality best suited for the temperature or abrasion conditions. The thickness of the poured layer can be varied, as well as the insulation, to reduce heat loss to a minimum. Because of the smallness of the supporting units, they may be furnished in chrome-nickel alloy for high temperature conditions, without adding prohibitive cost.

VARIABLE THICKNESS

To provide a liner for units requiring low heat loss, the thickness of the insulation and the poured layer may be increased. This is accomplished by lengthening the supporting units. The result is to move the refractory surface further away from the structure, which allows for thicker insulating block or a thicker layer of poured insulating castable.



STUD TYPE



BAR TYPE

M. H. DETRICK CO.

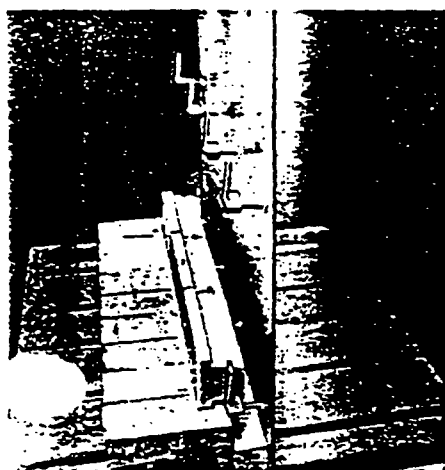
ENGINEERING HEAT ENCLOSURES for INDUSTRY



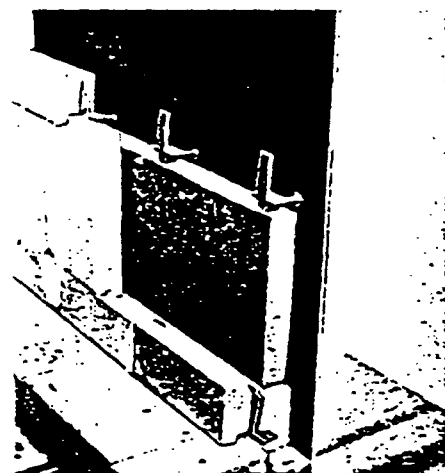
BULLETIN D-24



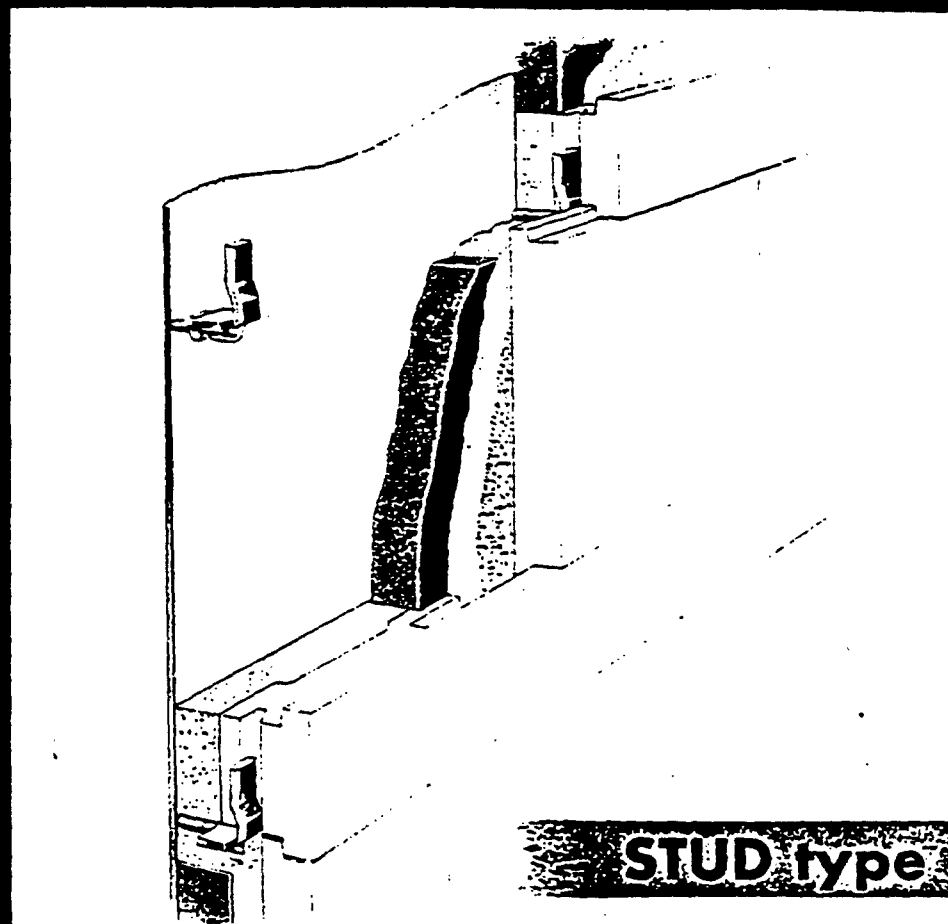
Through the use of a stud gun, hanger units are welded to the steel casing. Each unit is complete, including the casting and the stud with a welding tip.



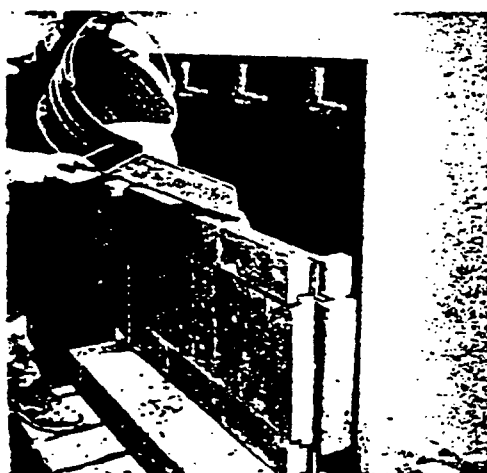
Shelf tile supported from stud castings provide a base for each independently supported section.



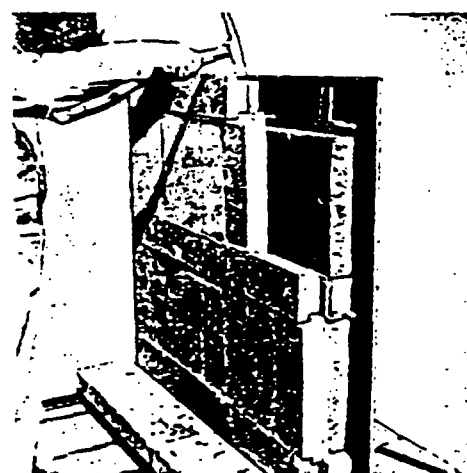
A filler tile is held in position between rows of shelf tile. Block insulation is placed between the tile and the casing, providing a firm base for a castable layer.



Section of wall showing tile, insulation, and poured layer all tied in and supported with a welded stud type unit . . . for steel cased units.



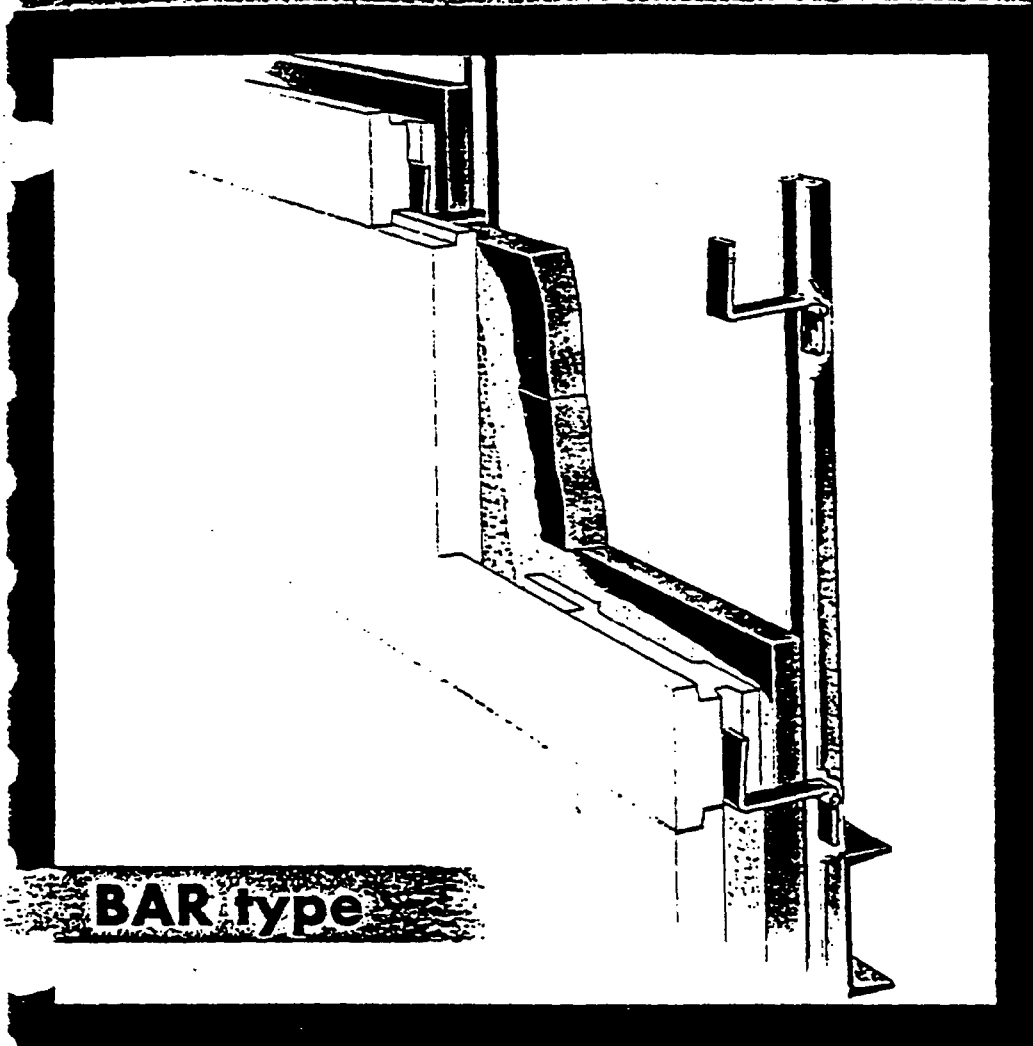
An insulating castable layer is poured to the level of the shelf tile in each section. If block insulation is not required, the entire space may be filled with castable.



Operation is repeated for each section. The result is an integrated lining with a dense fired refractory face.

STEEL CASED UNITS

Speed of application is accomplished through the use of a special supporting unit applied with a stud gun to the casing. This simple method of support provides a means of lining any type of cased unit, regardless of contour or height and provides maximum heat and abrasion resistance through the use of fired refractory shapes. Any amount of insulation may be applied . . . which may be a combination of block and castable or all castable.



BAR type

Section of wall showing tile, insulation, and a poured sealing layer tied in and supported on bar type supports . . . for buckstay units.



Vertical bars are welded to horizontal members that span between the buckstays. Clips are hooked into the vertical bars to support the shelf tile.



Filler tiles are placed on the shelf tile and provide an independently supported section.



Exterior can be finished with a plain light gauge casing, or weather-proof casing cement panels that are held between vertical bars may be applied.



Each course is supported and tied back providing a flat surface of fired refractory tile . . . a wall that is completely insulated and gas tight.

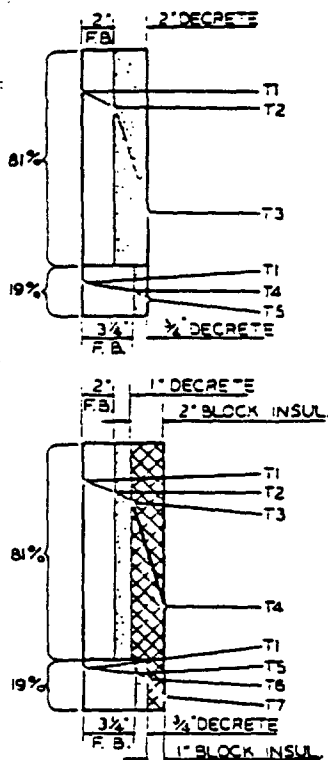


Each section is backed with a layer of blown insulation held in place by vertical bars. This provides a form for pouring a castable sealing layer.

Ready erection is accomplished on buckstay units through the use of bar type supports. Application may be made either inside or outside the unit, whichever is more convenient. The unit may be cased with light gauge sheet welded to the wall structure, or other material such as a casing cement or insulation type exterior. Here again any depth of insulation may be applied to reduce heat loss.

for
**BUCKSTAY
UNITS**

FOR DETRICK THERMOLAYER



4" THERMOLAYER							
T1	T2	T3	T4	T5	AV. S.T.	AV. H.L.	
1000	882	192	879	252	204	509	
1200	1061	217	817	289	231	638	
1400	1243	242	956	325	259	774	
1600	1420	267	1096	360	286	917	
1800	1600	292	1237	395	314	1071	
2000	1780	318	1378	429	341	1233	

NOTE:
AV. S.T. = AVERAGE SURFACE TEMPERATURE °F.
AV. H.L. = AVERAGE HEAT LOSS B.T.U./SQ. FT./HR.

5" THERMOLAYER								
T1	T2	T3	T4	T5	T6	T7	AV. S.T.	AV. H.L.
1000	960	852	121	894	759	145	125	174
1200	1150	1014	134	1069	902	163	139	230
1400	1340	1175	148	1243	1041	183	155	294
1600	1528	1335	164	1415	1177	205	172	368
1800	1715	1494	182	1585	1311	229	192	454
2000	1901	1652	202	1753	1443	255	213	550

Thermolayer can be furnished in a variety of thicknesses and insulation applications dependent upon the requirements. The 4 inch construction shows a complete Decrete pour for maximum tightness and speed of application. The 5 inch construction shows the application of block insulation, together with Decrete for tightness, providing minimum heat loss.

Organized for Service

Detrick leadership in the field of enclosing heat is the result of concentrating on these problems for nearly two decades. As industry demanded more and more efficiency, Detrick engineers came through with new designs, always making full use of the latest developments in materials. Today, faced with the responsibility of leadership, Detrick is organized to serve . . . through research, engineering, designing, manufacturing, erecting, and field contact. Every Detrick furnace enclosure is regarded as a continuing opportunity for service to the customer.

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111 WEST WASHINGTON STREET, CHICAGO 2, ILLINOIS