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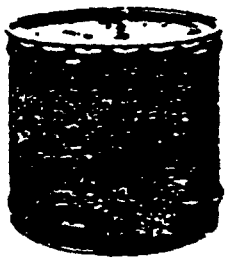
INSTALLATION BULLETIN NO. I-19-Y
ISSUED JULY 1, 1958
SUPERSEDES BULLETIN NO. I-19-S



Installation of PLASTIC "K-N" CHROME ORE in studded open hearth doors

E. J. LAVINO AND COMPANY
REFRACTORIES DIVISION
3 PENN CENTER PLAZA
PHILADELPHIA 2, PENNSYLVANIA

INSTALLATION OF PLASTIC "K-N" CHROME ORE IN STUDDED OPEN HEARTH DOORS

Since 1940, when the first open hearth door was lined with PLASTIC "K-N" Chrome Ore, studded and rammed doors have become established practice in most all steel plants. This practice has increased lining life and greatly reduced overall refractory maintenance costs, as well as open hearth charging delays and other furnace interruptions, due to frequent door changes.

Experience has shown that metal studs properly spaced and of the correct size are the most practical method of supporting the PLASTIC "K-N" in open hearth door linings. Welding has been the most widely used method, but to be effective, it must be done thoroughly in order to establish maximum heat transfer from stud to door, and thus cool both the studs and lining. The welded contact area on both stud and door should at least equal the cross-sectional area of the stud. Very low carbon stock is preferable.

For recommended stud spacing arrangements see Pages 6 & 7 for water-cooled tank and panel doors.

REFRACTORY PROPERTIES OF PLASTIC "K-N"

Lavino PLASTIC "K-N" Chrome Ore is the original plastic chrome ore, and was developed in the laboratories of E. J. Lavino and Company more than thirty years ago.

Among its outstanding characteristics, as a chrome refractory, is its comparative freedom from thermal spalling and thermal expansion. Expansion allowance is not recommended, regardless of the extent or thickness of the area installed.

SHIPPING DATA ON PLASTIC "K-N"

PACKING - Air-tight steel drums, 200 lbs. net; 9 lbs. tare; 209 lbs. gross.

SHIPMENT - Immediately from our plant or Distributor's stock.

STORAGE - Normal, weather-protected place recommended.

HOW TO INSTALL PLASTIC "K-N" CHROME ORE

The installation of PLASTIC "K-N" Chrome Ore in studded open hearth doors is simply and rapidly performed. It is necessary to use careful supervision, but not necessarily skilled masons, for its successful application.

GENERAL PREPARATORY INSTRUCTIONS

In order to make a PLASTIC "K-N" installation with the least delay, carefully arrange the materials and equipment beforehand, as given on page 3.

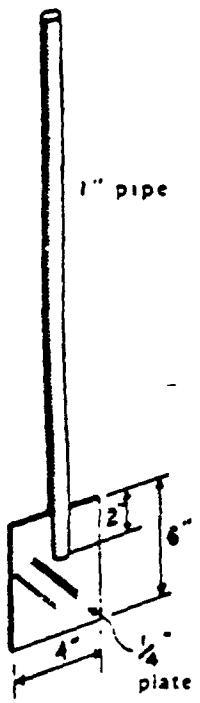
QUANTITY ESTIMATION

See table below for the amount of PLASTIC "K-N" required. Two-hundred pounds (one drum) of PLASTIC "K-N" fills one cubic foot.

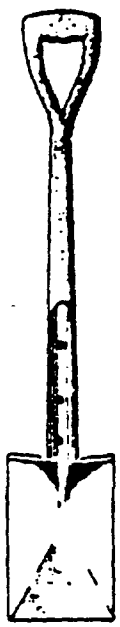
QUANTITY ESTIMATION TABLE			
AREA IN SQUARE FEET	POUNDS OF PLASTIC "K-N" FOR VARIOUS THICKNESS		
	4"	4 1/2"	5"
1	70	75	85
2	140	150	170
3	200	225	250
4	270	300	335
5	340	375	420
6	400	450	500
7	470	525	590
8	540	600	670
9	600	675	750
10	670	750	840
20	1400	1500	1670
30	2000	2250	2500
40	2800	3000	3340
50	3400	3750	4170

EQUIPMENT

Provide the necessary shovels, pneumatic rammer and spade tool. Also a heavy tamper, and hard wood planks if these are to be used.



(A) SPADE TOOL
(52" APPROX. LENGTH)



(B) GARDEN SPADE
(40" APPROX. LENGTH)



(C) BACK FILL
FOUNDRY TAMPER
(50" APPROX. LENGTH)



(D) POST TAMPER
(48" APPROX. LENGTH)