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JOHNS-MANVILLE RESEARCH AND ENGINEERING CENTER

JUL 25 1966

Report No. 432-280-S1

Date July 21, 1966

Title: "SUPEREX" FURNACE BLOCK - INVESTIGATION OF FAILURE IN SWINDELL-DRESSLER ANNEALING FURNACES

PLAINTIFF'S EXHIBIT K-1543

equested by: Sales Service Request IN-806 (complete)

DEFENDANT'S EXHIBIT OE-114

SUMMARY

Chemical analyses of samples of "SUPEREX" furnace block from a Swindell-Dressler annealing furnace at Republic Steel Corp, from a Lee Wilson furnace at the same location and from Waukegan plant in Report No. 432-280 showed all elements precipitated with aluminum as R_2O_3. The relative concentrations of impurities and minor constituents (including those in the R_2O_3 group) were reported in terms of intensity ratios determined by spectrographic techniques. The customer requested that analyses of the R_2O_3 be reported on a percentage basis. Therefore, the Analytical Chemistry Section analyzed the three samples by quantitative spectrographic methods.

The results were as follows (ignited basis, %):

	"SUPEREX" Furnace Block					
	Complaint Swindell-Dressler		Standard Waukegan		Lee Wilson	
Analysis No.	1*	2	1*	2	1*	2
SiO_2	82.3	--	81.1	--	81.7	--
R_2O_3	11.5	--	10.9	--	10.5	--
Al_2O_3	--	5.3	--	5.1	--	5.1
Fe_2O_3	--	6.2	--	5.8	--	5.4
TiO_2	--	0.09	--	0.10	--	0.09
CaO	1.8	--	1.4	--	1.7	--
MgO	3.6	--	5.7	--	5.4	--
Na_2O (by difference)	0.8	--	0.9	--	0.7	--

* From Report No. 432-280

The differences between the sum of the Al_2O_3, Fe_2O_3 and TiO_2 and the amounts previously reported as R_2O_3 in each sample were not greater than 0.1 per cent.

Contents: Summary only

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(Distribution reverse side)
Notebook No. 3379, p 60

Reported by S. E. Wooley
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