



DETRICK HIGH TEMPERATURE AGGREGATES

(TYPES PR, VM, DE, PC)

PLAINTIFF'S
EXHIBIT

MHD-193

Detrick High Temperature Aggregates are lightweight insulating materials used to achieve good thermal balance in various industrial heat enclosures. They may be employed as dry fill insulation by pouring them on the top or in the confined wall and floor spaces of furnaces, ovens, kilns. Detrick Aggregates also may be combined with suitable high-temperature binders for on-the-job preparation of insulating concrete to meet customer specifications.

Selection of the most useful aggregate for a specific installation depends on the performance characteristics desired. Detrick PR and VM Aggregates are preferred in moderate cyclic operations because of their lightweight and resultant lower heat capacity. Here, Types PR and VM offer reduced fuel consumption and a shorter heating-up time to achieve economy in operation. In other cases, the greater strengths possible with Types DE and PC, make their selection preferable.

TYPE PR AGGREGATE - For Temperatures to 1800° F.

Detrick PR Aggregate is made from a volcanic rock (perlite) which contains entrapped moisture in its natural state. By a heating process, the material is expanded to form tiny clusters of microscopic sealed cells. These lightweight particles are insoluble in water and have low water vapor adsorption. Their apparent bulk density is from 8 to 10 lbs. per cu. ft. in the controlled particle size gradation recommended. Shipped in multi-ply 4 cu. ft. paper bags containing approximately 35 lbs. net.

TYPE VM AGGREGATE - For Temperatures to 1800° F.

Detrick VM Aggregate has a lightweight, accoridian-type physical structure achieved by the heat expansion of a micaceous mineral known as vermiculite. The dry particles have high surface area and an apparent bulk density of 8 to 10 lbs. per cu. ft. Tan in color, VM Aggregate is shipped in multi-ply 4 cu. ft. paper bag containing approximately 35 lbs. net.

TYPE DE AGGREGATE - For Temperatures to 2000° F.

Detrick DE Aggregate is composed of diatomite (diatomaceous earth), calcined so as to virtually eliminate subsequent shrinkage at high temperature. DE Aggregate has a pinkish-tan color, is water-absorbent but not water soluble. It weighs 30 lbs. per cu. ft. at a residual moisture content of about 6% by weight. Shipped in paper bags containing 50 or 100 lbs. net.

TYPE PC AGGREGATE - For Temperatures to 2000° F.

Detrick PC Aggregate is processed from a lightweight pumice rock having a porous, hard structure. Grey to buff color in its natural state, PC Aggregate is carefully crushed to provide a desirable proportion of coarse and fine particles. It is water absorbent, but essentially insoluble in water. PC Aggregate has an apparent dry bulk density of 45 lbs. per cu. ft. Furnished dry in 50 or 100 lb. paper bags.

ESTIMATING DATA

Detrick Type No.	Dry Rodded Density	Typical Concrete Yield (cu. ft. per cu. ft. of Aggregate)
PR	9-10	.75 to .85
VM	9-10	.75 to .85
DE	25-30	.9 to 1.0
PC	45-50	.9 to 1.0