

Commonwealth of Kentucky
Department of Highways

Highway Materials Research Laboratory
132 Graham Avenue, Lexington 29, Ky.

March 29, 1950

A.1.6

Memorandum to: Mr. C. B. Owens, Director
Division of Construction

Attached is a memorandum report made by Mr. S. T. Collier, setting forth the result of tests for unit weight of slag made at the Ashland plant of the Standard Slag and Stone Company on March 21. You will recall that these were made at the request of the Committee considering unit weights of aggregates and that this information supplements that contained in our report of February 7 entitled "Determination of Unit Weights of Aggregates in the Laboratory and at the Source."

This gives us much more extensive information on unit weights on slag, and of course, covers a much greater range in standard sizes of this aggregate. It is gratifying to note that these results do not vary a lot from those obtained in our original tests, and it looks as if the recommendations made by Mr. Collier in Table IV of his report of February 7, are fairly well substantiated by this additional information.

L. E. Gregg
L. E. Gregg
Associate Director of Research

LG:et
cc: All Research Committee Members

Highway Materials Research Laboratory
132 Graham Avenue, Lexington 29, Ky.

March 28, 1950

Memorandum to: Mr. L. E. Gregg
Associate Director of Research

Subject: Unit Weights of Aggregates

This is a report of the unit weight measurements for slag taken at Ashland, Kentucky, March 21, 1950. These measurements were conducted by E. G. Williams of this Laboratory, with F. C. Hillyard and O. F. Threlkeld of the Testing Laboratory, Frankfort, Kentucky.

The Eighth District arranged for a truck and driver. The truck was of the same type used in previous measurements, having a measured volume of 64.5 cubic feet, or 2.39 cubic yards.

Samples were loaded both from bins and by bucket loader from stockpiles. The results are tabulated below:

Standard Size	Loaded from	Drop in Ft.	Net Wt. Lbs.*	Wt. per Cu. Yd.	Condition	Est. Moist. Percent
4	Bins	13	5130	2146	Dry	
6	Stockpile	2	4840	2025	Moist	2
8	Bins	13	5095	2132	Dry	
8	Stockpile	2	4845	2027	Dry	
610	Stockpile	2	5505	2303	Moist	
9	Bins	13	4960	2075	Dry	
9	Stockpile	2	4810	2013	Moist	3
11	Stockpile	2	4830	2021	Moist	3

*For 2.39 cu. yds.

In this case, the method of loading effected an appreciable difference in the unit weights of like gradations.

The overall results are comparable with those from measurements made last January. The No. 6 and No. 8 sizes loaded from stockpiles weighed somewhat less than before. The weight differentials between the size groups (2 to 8 and 9 & 11), when loaded from stockpiles were not as great as those arrived at in the original report submitted last February (Table IV), but the average of the results for the two groups support those values as being reasonably accurate. The cubic yard weight of the size 610 is 100 pounds over that previously arrived at.

No correction for moisture was computed, as it is the opinion of the writer that, due to certain influence of surface moisture on the density of aggregates, an accurate correction for unit weight from wet to dry weights cannot be made by simple calculation.

S. T. Collier
S. T. Collier
Materials Engineer