

Perlite

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PERLITE AGGREGATE FOR PAINT TEXTURING

Texture paints are being used in considerable volume where it is important to resort to this economical method of concealing surface flaws and irregularities in joints between dry-wall panels.

To an increasing extent, sand is being replaced by expanded perlite. Perlite serves as effectively as sand and displays much less tendency to settle in a paint.

Since paints are sold by volume, and their cost calculated on that basis, it is important to know the bulking value of each ingredient for accurate prediction of the volume yielded by a given formulation.

This technical data sheet describes a simple, practical procedure for determining the bulking value of expanded perlite, dispersed by stirring, in a conventional paint. The only equipment required is a standard weight-per-gallon cup and a laboratory balance sensitive to 0.1 gram.

The principle of this method is based on a determination of the weight per gallon of a conventional flat wall paint before and after a preweighed amount of expanded perlite is stirred into a measured volume of the paint.

A typical determination is as follows:

SELECTION OF PAINT

A polyvinyl acetate paint of 60 per cent pigment-volume concentration containing about 55 per cent solids by weight would be a typical commercial choice for this application. A paint of this type selected for these tests had a weight per gallon of 12.30 pounds.

EXPANDED PERLITE

Perlite was used at a concentration of 0.5 pound per gallon of the original paint.

PROCEDURE

- a. Find weight per gallon of paint without perlite (Paint A) . . . 12.30 lb.
- b. Add to a measured volume of Paint A, perlite at rate of 0.5 lb. per gallon and find weight per gallon of new composition (Paint B) 10.85 lb.

CALCULATIONS

Weight of one gallon of Paint A . . .	12.30 lb.
Plus 0.5 pound perlite	<u>0.50</u>
Weight of new composition, Paint B . .	12.80 lb.
Weight per gallon of Paint B (by test) .	10.85 lb.
Volume of Paint B, produced by mixing Paint A plus 0.5 pound perlite	

$$12.80 \text{ pounds} \times \frac{\text{gallon}}{10.85 \text{ pounds}} = 1.18 \text{ gallons}$$

Since 1.00 of the 1.18 gallons came from the original Paint A, the 0.18 gallon increment is due to the 0.5 pound of perlite added.

Therefore, the bulking value of this perlite sample in paint is 0.18 gallon per 0.5 pound, or 0.36 gallon per pound, equivalent to 2.78 pounds per gallon.

On this basis the apparent specific gravity is

0.33, indicating the effect of the capsulated air within the perlite particles.

Several tests can be made with one pint quantities of paint for convenience. By the method of calculation outlined above, it can be predicted that 16 fluid ounces of paint would be increased to 18.88 fluid ounces upon the addition of perlite at the rate of 0.5 pound per gallon.

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