

MANIPULATING THE TEST RESULTS OF APPARENT POROSITY (AP) DURING TESTING OF REFRACTORY BRICKS

Apparent porosity (AP) is the percentage ratio of the void space in the refractory specimen to the total bulk volume of the same. AP is one of the most important physical properties for any type of refractory brick that will be certainly mentioned in its specifications. Hence determination of Apparent Porosity is almost a compulsory part of Inspection / Testing of a Refractory Lot. This property becomes more stringent when the refractory brick is of any complicated shape like, checker bricks or nozzle bricks having tongue - groove etc. In such cases often, it remains a cause of worries for the laboratory person conducting inspection.

The results of AP can be manipulated to show less AP% than what the brick has actually and thus, an inspector may be deceived by a laboratory person. But such actions or manipulation of results are undeniably wrong and liable to be penalized or even the whole Refractory Lot may get rejected, if caught red-handed.

Nevertheless, this article is not to discuss the merits-demerits or right-wrong of the action. That is for you to decide. Here I assume that you have made a conscious decision to learn the trick as how to manipulate the results of Apparent Porosity in order to show a better result of a porous brick. Having so decided, below is a guide (trick) on how you can do it:

=>> **Apparent Porosity (%)** = $\{(Soaked\ Wt - Dry\ Wt) \div (Soaked\ Wt - Suspended\ Wt)\} \times 100$

=>> To show less AP% we need to increase Dry wt as much as possible.

=>> Make 30% conc. salt solution (i.e. 30gm salt in 100gm water).

=>> Example: To bring down 75 mm std. Brick having actually AP-25% to AP-18%, soak the brick in approximately 30ml quantity of above salt solution so that its Dry Wt. is increased by approx 9 gm. After applying solution from different sides and its complete soaking put the brick in the drier & properly clean its surfaces after drying.

Better try to know the actual AP before applying/manipulating.

Source: <http://viewforyou.blogspot.in/2009/05/manipulating-test-results-of-apparent.html>