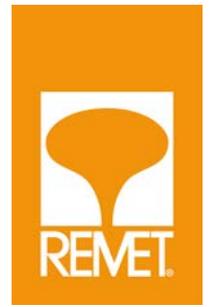


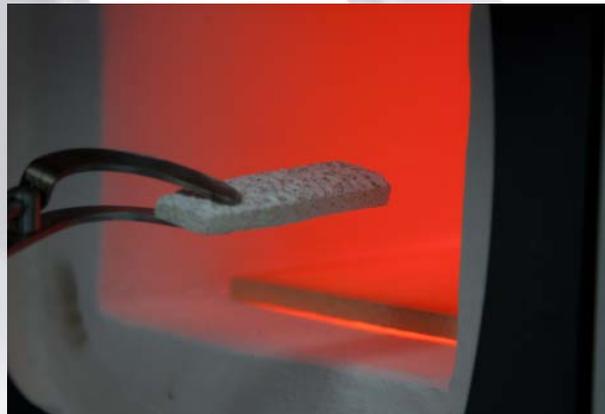
# Shell Testing

## FAQ's



### Why should I test my shell?

Your shell should be tested for benchmarking purposes regularly. Defects in the shell can cause a number of issues when the metal is poured into the shell. Knowing how the shell changes over time is critical to maintaining control.



requires to break the shell. A standard wax bar is used for testing.

### How should I be testing my shell?

1. MOR (Modulus of Rupture) Testing - This determines the strength of the shell.
2. Permeability Testing - This determines the ability of air to pass through the shell.

*It is important to measure these properties periodically to ensure any change or issues can be detected before it causes scrap defects*

### MOR, what is it good for?

MOR (Modulus of Rupture) is a test to determine the strength of a shell at it's 3 stages (Green, Hot, Fired and Cooled). The test itself involves applying force to a sample shell and recording how much force it

### What is Permeability?

The permeability is a key property of any shell and can be responsible for the success/ or failure of a shell system. Permeability can be responsible for many casting related defects like cold shut and non-fill. It can also allow for wax to expand into the shell during de-wax, reducing shell cracking.

*Permeability is a measure of how easily a fluid can move through the shell*



### How is Permeability measured?

The BSI (BS 1902: Section 10.2:1994) approved method of measuring the permeability of a shell is by using the ping pong ball method. The ping pong ball is coated in slurry and then the ball is burnt out. Air is then passed through the ball at elevated temperatures and the pressure difference is calculated.

### What to know more?

For more detailed information about shell testing please visit the "Insights" section of our website. There you will find in depth articles on Shell Strength and Investment Casting Permeability, as well as articles on all other aspects of the investment casting process. These articles are written by our technical experts and are based on real world experiences. This section is regularly updated, so check back for new articles.

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