



## **ANH Refractories Europe Ltd**

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## **Mixing & Using Instructions**

### **TUFSHOT LI**

#### **General**

Material should be stored in a dry place. For best results, material should be maintained at 10 - 21°C prior to gunning.

This product is designed to be gunned using standard gunnite equipment by experienced personnel.

All equipment used to mix and gun this product must be clean. Residual material left in mixers from prior use may adversely affect gunning characteristics and physical properties of gunning material.

For best results this material should be predamped. Water added at the nozzle and for predamping must be clean and suitable for drinking. For best results water should be maintained at 10 - 21°C.

#### **Installation**

During the actual gunning, the nozzle should be pointed at a 90° angle to the gun surface and work should begin at the lowest part of the installation to prevent trapping of rebound. The nozzleman must not work over a larger area than he can keep moist, continuing to shoot the section until required thickness is reached.

Water should be controlled so that the gunned surface has a sheen, and the coarse aggregate craters the surface on contact. A sandy surface means the material is too dry. A rippled effect indicates you are gunning too wet.

Each panel should be placed continuously until completed. The nozzle should be held 0.5 - 1.5 metres from the surface being gunned. The nozzle must be kept moving at all times during placing to ensure variable results are not obtained.

Do not trowel to slick finish. At temperatures above 20°C, air cure, keeping surfaces damp and/or covered, for 16 - 48 hours typically or until a hard set developed. Lower temperatures will increase the time before a hard set develops. Keep material from freezing during air cure and preferably until a dryout can be initiated. Freezing these products prior to water removal can cause structural damage.



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### **Dryout Schedule**

Heating and cooling refractory structures can be a complex procedure and where possible should be delegated to experts. Where this is done by the client they are themselves contractually responsible, and the following is given in good faith for guidance only.

Ambient to 120°C	28°C / hour
Hold at 120°C for 30 mins per 25mm thickness	
120°C to 250°C	28°C / hour
Hold at 250°C for 30 mins per 25mm thickness	
250°C to 550°C	28°C / hour
Hold at 550°C for 30 mins per 25mm thickness	
550°C to 800°C	28°C / hour
Hold at 800°C for 30 mins per 25mm thickness	

Never enclose a castable in a vapour-tight encasement as a dangerous steam explosion may result.

For thicknesses greater than 230mm or for multi-component linings contact Harbison-Walker Refractories Ltd for further advice.

Please note, the position of the control thermocouples for the heating and holding phase is important and can be critical. Advice can be given in good faith on request.

