



ANH Refractories Europe Ltd

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Mixing & Using Instructions

ULTRA EXPRESS 70 AL

General

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

Porous back-up materials or wood forms should be waterproofed. Absorption of water can result in reduced flow, or affect the hydraulic set. Forms must be stout and water tight.

This product is designed to be mixed with water and may either be vibra-cast or pumped / self-flowed. All equipment used to mix this product must be clean.

Never mix less than full bags. For best results, water should be maintained at 10 - 21°C.

Water Addition and Mixing Requirements

	<u>Vibra-cast</u>	<u>Pumped / Flowed</u>
Water addition per 100 Kg	4.5 Litres	6.9 Litres

Mix for at least five minutes. For best results, wet mix temperature should be maintained at 15 - 25°C. Minor adjustments to the amount of water are permissible to achieve desired flow, avoid using water additions in excess of that required to produce adequate flow characteristics.

Installation

Install within 20 minutes of adding water. 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 has developed. Lower temperatures will increase the time before a hard set develops. The best results are achieved at curing temperatures of 30°C - 45°C. Keep material from freezing during air cure and preferably until a dryout can be initiated. Freezing of this product 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	30°C / hour
Hold at 120°C for 60 mins per 25mm thickness	
120°C to 250°C	30°C / hour
Hold at 250°C for 60 mins per 25mm thickness	
250°C to 350°C	30°C / hour
Hold at 350°C for 30 mins per 25mm thickness	
350°C to 550°C	30°C / hour
Hold at 550°C for 60 mins per 25mm thickness	
550°C to operating temperature	50°C / hour

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.

