



**PRODUCT BULLETIN  
ALPHATEC 110**

Bulletin No: *E-110* Date: *2003-02*

*This Bulletin supercedes all previous Product Bulletins of the same number*

**FAST-CURE, THREE COMPONENT EPOXY GROUT**

**GENERAL DESCRIPTION**

ALPHATEC 110 is a three-component polymer grout system consisting of modified epoxy resin, chemical hardener, and blended aggregate. It is especially formulated for rapid curing, and a compressive strength of 60 MPa is attained within 4 hours when the grout is mixed and cured at 23°C.

**FEATURES**

1. Very fast cure at ambient temps
2. Cures at temperatures down to 0°C
3. Low shrinkage on cure
4. Good mechanical properties

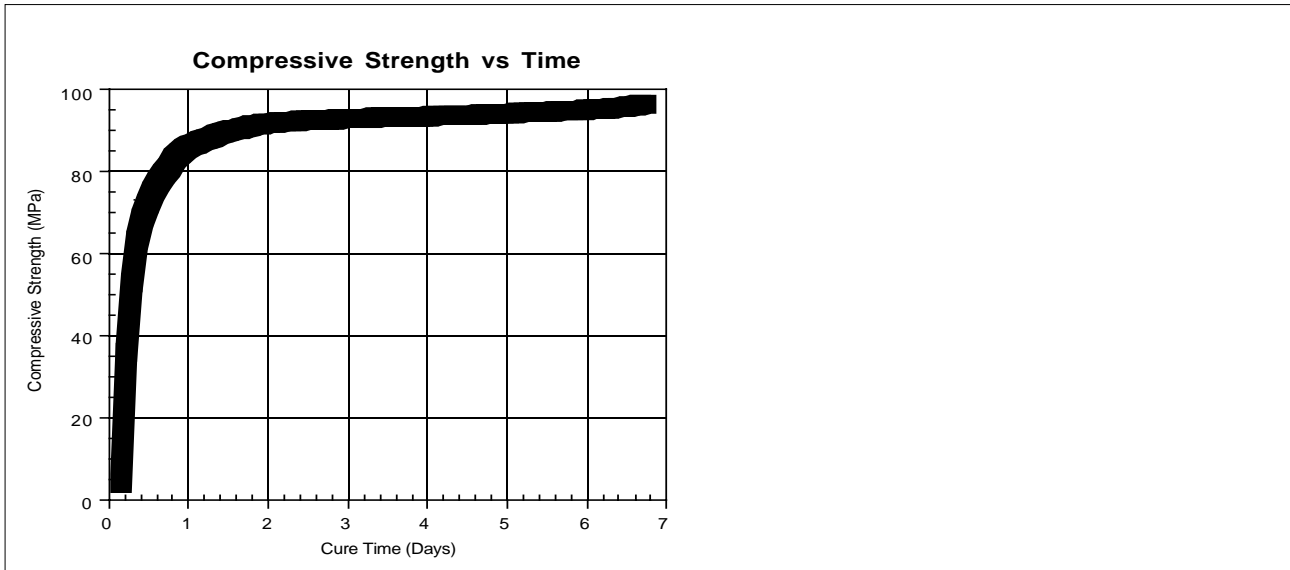
**RESIN SYSTEM PROPERTIES**

	<b>Liquid</b>	<b>Hardener</b>	<b>Mixed</b>
Viscosity at 23°C (cps):	1,400-1,900	400-600	600-700
Specific Gravity:	1.15	1.07	1.13
Mixing Ratio (by wt):	100	41	
Mixing Ratio (by vol):	100	44	
	<b>Temp</b>	<b>Time</b>	
Working Time at:	23°C	20	
(mixed with aggregate)	10°C	30	
	0°C	40	
Shrinkage on cure (with aggregate):	0.000482 (mm/mm)		

**CURED PROPERTIES**

[All test data at 23°C (74°F) unless otherwise stated.]	<b>SI MPa (GPa)</b>	<b>Metric kg/cm<sup>2</sup></b>	<b>Imperial psi</b>
Compressive Strength (ASTM C 579 B):	96	980	13,900
Compressive Modulus (ASTM C 579 B):	(13.1)	133,000	1,850,000
Flexural Strength (ASTM C 580):	28.4	290	4,100
Flexural Modulus (ASTM C 580):	(10.6)	108,000	1,540,000
Tensile Strength (ASTM C 307):	13.7	140	1,900
Tensile Bond Strength (to Steel):	14.6	150	2,100
Shear Bond Strength (to Steel):	20.6	210	2,900
Slant Shear Bond Strength (ASTM C 1042 mod):	32.4*	330*	4,600*
		* = concrete failure	
		<b>cm/cm</b>	<b>in/in</b>
Coefficient of Expansion (ASTM C-531):		0.000049/°C	0.000027/°F

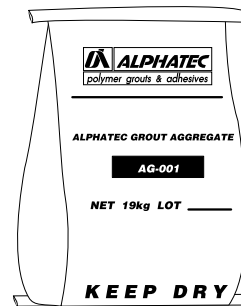
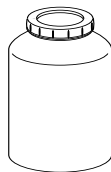
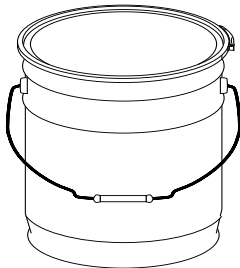
## GRAPHS



## PACKAGING

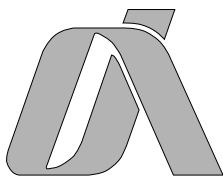
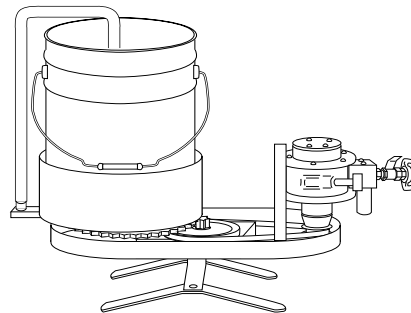
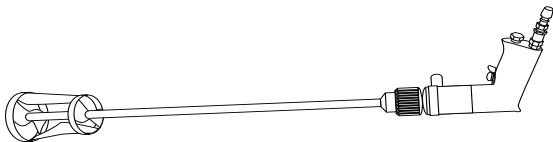
ALPHATEC 110 is packed in a unit yielding 10 liters. The components are pre-measured, and should normally be mixed as a unit.

- Base: 1 x 2.30 kg in 18 liter pail
- Hardener: 1 x 0.95 kg in 1 liter plastic bottle
- Aggregate: 1 x 20.0 kg in waterproof paper bag



## MIXING & HANDLING

Pour full amount of hardener into the pail containing the liquid, and mix for at least 2 minutes with an air or electric-powered Jiffy mixer operated at 500 rpm. Clamp pail onto the pail mixer, and add aggregate slowly. Use full amount of aggregate, unless an Alpha trained supervisor recommends otherwise. See "General Instructions for the Use & Handling of Polymer Grouts" for further details.



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*Alphatec Holdings licenses various Alphatec Engineering group companies to manufacture these products in specific markets. Consult your local supplier for more information.*