FREEZE/THAW AND CHLORIDE RESISTANT

PERFORMANCE CHARACTERISTICS

Phoscrete is highly resistant to deterioration caused by severe weather.
Phoscrete has seven years' history of successful full and partial depth concrete repair installations on highly travelled roads and bridges across the United States. Phoscrete repairs are exposed to extensive freezing and thawing, deicing chemicals, studded tire traffic, scorching heat, repeated expansion and contraction, vibration on long-span bridges, and seawater incursion.

In 2015, Phoscrete improved our MALP repair materials with fiber-reinforcement. Phoscrete HC was thoroughly evaluated by ACI-Certified, AASHTO-accredited, and USACE-validated independent materials testing laboratories. Phoscrete HC Durability Properties are reported below [see Phoscrete Technical Page].

Durability Properties					
Test	**Specification**	**Description**	**Test**	**Typical Results**	
Freeze Thaw	ASTM C666-A	Resistance of Concrete to Rapid Freezing and Thaw in a Saturated Condition (300 cycles)	Durability Factor	94%	
Scaling	ASTM C672	Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals (25 cycles) Results = Visual | Material Loss lbs./ft^2	NaCl	0	0.00
			$CaCl_2$	0	0.00
			$MgCl_2$	0	0.00
Chlorides	ASTM C1202	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration (Current @5 min)	28 days	1331 C	36.2mA
	ASTM C1543	Penetration of Chloride Ion into Concrete by Ponding	90 days	10-20 mm	0.135%
				55-65 mm	0.117%
			180 days	10-20 mm	0.195%
				55-65 mm	0.145%
Abrasion	California CT-550	Determining the Surface Abrasion Resistance of Concrete Specimens (mass loss)	24 hours	16 g	1.8%

Phoscrete is exceptionally resistant to Calcium and Magnesium Chlorides.
These most aggressive salts are needed to melt ice when temperatures drop below -0°F (-18°C) when Sodium Chloride (NaCl) is not effective as a deicing agent.

Phoscrete's low chloride penetration protects the underlying reinforcing steel from corrosion.

Independent, accredited laboratory test reports on Phoscrete concretes are available upon request.