

NSF Reliner MSP[®] Cement

Repair Mortar plus Corrosion Inhibitor

STANDARD CEMENT MATERIALS, INC[®]

Product Data Sheet

GENERAL

NSF Reliner MSP[®] Cement is a polymer – modified cement mortar for concrete and masonry. The high performance cement with densified microsilica powder, pozzolanic materials, and other select admixtures is designed to coat both new and existing above and below grade concrete structures and as a structural repair mortar for water and wastewater treatment facilities, parking structures, bridges, dams and tunnels, and to provide corrosion protection in sewerage works. The NSF Reliner MSP[®] Cement offers the benefit of DCI[®] S Corrosion Inhibitor; a liquid calcium nitrite corrosion inhibitor added to the mortar during the mixing process to protect the reinforcing steel in the concrete. The NSF Reliner MSP[®] Cement is made with ANSI/ NSF STANDARD 61[®] approved cement for potable water and conforms to water surface contact standards.

APPLICATIONS

A Sustainable Green Technology Product, the patented original NSF Reliner MSP[®] Cement is a gunned shotcrete coating for horizontal and overhead surfaces in concrete and masonry up to 5 – inch thicknesses. Combined with dispersible copolymer powders and synthetic polypropylene fibers, the trowel - grade cement provides abrasion resistance with greatly reduced shrinkage cracking. Repair surface defects in cast-in-place [precast] structures, manholes, junction boxes, lift stations, pipes and raw water treatment plant structures. The modified cement offers other advantages like increased freeze thaw durability and resistance to de-icing salts.

PROTECTION LEVELS

Corrosion Resistance: composed primarily of finely divided cement and dry microsilica powder, the NSF Reliner MSP[®] Cement adds open time performance and lower permeability to protect against low pH ranges in damp, sewer environments, hydrogen sulfide gas, sulfates, salt water, chlorides, water vapor, oils, grease, gases and dilute acids to pH 2.0.

Chemical Composition: its dense chemical make-up differs significantly from the common Portland calcium silicate hydrates cement blends. In contrast, the NSF Reliner MSP[®] Cement will not corrode or attack the reinforcement steel.

PLACEMENT

Place immediately by wet applied, low pressure shotcrete or gunite method. Working time is approximately 150 minutes at 73°F. Trail batches are recommended. Follow ACI 302 “GUIDE FOR

CONCRETE FLOORS AND SLAB CONSTRUCTION” and ACI 308 “STANDARD PRACTICE FOR CURING CONCRETE” to avoid any potential problems due to shrinkage cracking are minimized.

MIXING

Add clean, potable water for mixing. Do not add Portland cement, admixtures or other ingredients.

TECHNICAL INFORMATION

Property	psi		
Compressive Strength	24-h	7-d	28-d
ASTM C 109	3,500	4,500	>8,000
Tensile Strength			
ASTM C 496	*	*	570
Flexural Strength			
ASTM C 78	*	*	>1,000
Bond Strength/ Slant Shear			
ASTM C 882			>2,675
Modulus of Elasticity			
ASTM C 496/ C 469M			4,375,233
Shrinkage at 90% RH			
ASTM C 596			0.0%
Chloride Permeability			
AASHTO T 277			<300
Freeze Thaw Durability-300 Cycles			
ASTM C 666			No Damage
Sulfate Resistance-90 days:			
ASTM C 267			
2,000 ppm (sulfuric acid)			Good
20,000 ppm (sulfuric acid)			Slight scaling
Applied Density (28 days)			125 ± 2

EQUIPMENT

The manufacturer or an approved applicator shall apply the cement using a **SEWER MANHOLE MASTERS[™] REPAIR TRAILER** or approved equipment. The pump equipment must supply low pressure at 350-psi and 11 cfm at the nozzle.

CURING

Follow ACI 302, 305 and 308; and hot weather concrete placement practices to minimize problems caused by decreased bleeding. Protect the cement mortar from hot weather extremes, air movement and dry conditions, and direct exposure to sunlight. Cure as soon as the surface begins to harden, cover with plastic sheets and use an acceptable liquid membrane-forming curing compound per ASTM C 309. The curing compound shall contain a minimum of 25 % solids and prevent a maximum loss of water up to 0.4-kg/m³ in 72 hours. Apply the curing compound in layers while the cement is still soft. Allow to cure approximately 4 ½ to 24 hours. The ambient temperatures and job conditions will govern specific cases. Normal curing is adequate, but, in some situations such as hot or cold weather, special care is sometimes needed. Therefore, it is important to keep the concrete moist and at a favorable temperature during the early hardening period. Make no application when the ambient temperatures are less than 40°F or freezing temperature is expected within 24-hour.

SAFETY

Caution: the cement contains fused calcium hydrates—May Cause Eye and Skin Irritation. Clean up with soap and water. Avoid prolong exposure. Wash with water immediately after handling. If skin problems arise, flush with water and get medical help. Keep out of reach of children.

STORAGE

Store the product in a dry cool place. The dry, packaged cement is stocked in a 75-lb double paper lined bag.

TECHNICAL SERVICE

Standard Cement Materials Inc provides technical and on-site assistance within 48-hours notice.

WARRANTY INFORMATION

Standard Cement Materials, Inc offers this information for the user's consideration. The corporation warrants this product to be of good quality and performance as specified and is free from material defects within the warranty period. If failure occurs within the specified period, the damage will be repaired to its previous state at no cost to the Owner (within 30-days after written notification). "Failure" does not include consequential damage resulting from mechanical or chemical maltreatment or act of God, or exposure to any chemical substance not customarily used in

connection with normal use of the structure. The manufacturer's liability and sole obligation and the Buyer's single remedy in connection with the product shall be limited to replacement of the product not conforming to this warranty. Standard Cement Materials Inc reserves the right to determine whether any claim is specifically related to another cause. The corporation makes no other warranties, either expressed or implied and in no event intends to infringe on any established patents or trademarks. © All rights reserved 1/2011.

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