HORIZONTAL REPAIR SELECTION GUIDE

TENON™

TCC MATERIALS
SPEC BLENDED CONSTRUCTION PRODUCTS

	CONCRETE PATCHING MIX (3U18)	CONCRETE PATCHING MIX AE (3U58M)	METRO MIX	METRO MIX AE	RAPID PATCH® SELF-LEVELING RESURFACER	SELF-CONSOLIDATING CONCRETE MIX (SCC) CI
						
ADVANTAGES/USES	• Durable, Portland-limestone cement-based repair mix for concrete pavement, industrial floors, and structural concrete • Can be mixed with air-entraining admixture • Produced in accordance with MnDOT inspection program • Commercial use	• Durable, air-entrained, Portland-limestone cement-based repair mix for concrete pavement, industrial floors, and structural concrete • Can be mixed with Fast-Set Liquid Activator for 4-5 hr. open to traffic • Commercial use	• High-performance, super plasticized, Portland-limestone, cement-based, engineered concrete mix for small structural projects or when ready-mix truck access is restricted • Pumpable • Commercial use • Corrosion inhibitor	• High-performance, super plasticized, Portland-limestone cement-based, engineered concrete mix for small structural projects or when ready-mix truck access is restricted • Pumpable • Air-entrained for freeze-thaw durability • Corrosion inhibitor	• Cement based product for resurfacing concrete floors with damaged finishes or as a wear surface • Provides smooth, hard, flat surface • Underlayment or wear surface • Accepts foot traffic in 6 hours	• Self-consolidating, excellent placement characteristics • Polymer-modified for increased adhesion and flexural strength • Integral penetrating corrosion inhibitor • Enhanced with silica fume • Convenient and consistent, made with coarse aggregate to eliminate the need to extend the material in the field, and the risk of reactive aggregate. • Does not require mechanical vibration consolidation • Fiber reinforced to control shrinkage cracking
APPLICATION						
Thickness	Min 1½” Full depth maximum	Min 1½” Full depth maximum	Min 1½” Full depth maximum	Min 1½” Full depth maximum	Feather edge to 2” thick	Min 1” Max 8”
Initial Set Time @ 70°F	~ 3:00 (hr:min)	4:15-4:45 (hr:min)	~ 6:00 (hr:min)	~ 4:00 (hr:min)	Varies.	~ 6:00 (hr:min)
Final Set Time @ 70°F	~ 4:40 (hr:min)	5:15-5:45 (hr:min)	~ 8:00 (hr:min)	~ 5:30 (hr:min)	01:15-01:30 (hr:min)	~ 8:00 (hr:min)
Pot Life @ 70°F	1 hr	1 hr	1 hr	1 hr	15 min	1 hr
Open to Traffic	6-8 hr (foot) 24 hr (wheel)	6-8 hr (foot) 24 hr (wheel)	6-8 hr (foot) 24 hr (wheel)	6-8 hr (foot) 24 hr (wheel)	4-6 hr	6-8 hr (foot) > 24 hr (wheel)
Temperature Use Range	50°F-90°F	50°F-80°F	50°F-100°F	50°F-100°F	40°F-90°F	45°F-100°F
Industry Standards	Meets or exceeds ASTM C387 Meets MnDOT specification 3105 for Grade 3U18	Meets or exceeds ASTM C387 Meets MN DOT specification 3105 for Grade 3U18	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387	ASTM C109, ASTM C348	Meets or exceeds ASTM C882
Enhancements	Low-slump mix design	Plasticized Air-Entrained	Plasticized Corrosion inhibitors	Plasticized Corrosion inhibitors Air-entrained	Self-drying technology	Polymer and corrosion inhibitor
Compressive Strength	>4 ,000 psi (24 hr) > 7,500 psi (28 day)	> 4,000 psi (24 hr) > 8,000 psi (28 day)	>3,500 psi (24 hr.) >9,000 psi (28 day)	> 5,000 psi (24 hr.) > 8,500 psi (28 day	Varies. See data sheet.	Varies. See data sheet.
Suitable Substrates (Refer to Data Sheet for restrictions and notes)	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	New concrete slabs, damaged concrete floors, and plywood	Parking facilities, industrial plants, walkways, bridges, tunnels, dams, and balconies
Color	Gray	Gray	Gray	Gray	Gray	Gray

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ADVANTAGES/USES	PARTIAL DEPTH CONCRETE PATCH 2:1	PARTIAL DEPTH CONCRETE PATCH 2.5:1	PARTIAL DEPTH CONCRETE PATCH 3:1	CONCRETE RESURFACER	POURABLE CONCRETE PATCH	VINYL CONCRETE PATCH
						
	• Durable, Portland-limestone cement-based, partial depth overlay repair mix for concrete pavement, industrial floors, structural concrete, and filling masonry block cores • 2 parts fine sand:1 part Portland-limestone cement • Commercial use	• Durable, Portland-limestone, cement-based, partial depth overlay repair mix for concrete pavement, industrial floors, structural concrete, and filling masonry block cores • 2.5 parts fine sand:1 part Portland-limestone cement • Commercial use	• Durable, Portland cement-based partial depth overlay repair mix for concrete pavement, industrial floors, structural concrete, paver bonding and grouting • Mix with Mighty Bond additive • 3 parts fine sand:1 part Portland cement • Commercial use	• Fast-setting, high-performance, Portland-limestone cement-based concrete resurfacing and patching mix • Less expensive alternative to concrete replacement • Can be pigmented • No primer needed • Horizontal and vertical • Commercial use	• Portland-limestone cement-based, flowable, squeegee-grade, resurfacing and patching mix • Underlayment for new flooring materials • Wear surface in residential and light duty commercial applications	• Portland-limestone cement-based, high-strength patching mix • Repair minor concrete surface imperfections and general purpose patching • Polymer-modified • Excellent resistance to deicing salts • Horizontal and vertical application • Commercial use
APPLICATION						
Thickness	Min ½” Max 2”	Min ½” Max 2”	Min ½” Max 2” neat	Feather edge minimum Max ½” per layer	Min ⅛” Max ½”	Feather edge minimum Max 2” per layer
Initial Set Time @ 70°F	< 0:30 (hr:min)	< 0:30 (hr:min)	< 0:30 (hr:min)	0:10-0:15 (hr:min)	2:00 (hr:min)	0:30 (hr:min)
Final Set Time @ 70°F	> 6:00 (hr:min)	> 6:00 (hr:min)	> 6:00 (hr:min)	1:30-2:00 (hr:min)	5:15 (hr:min)	1:00 (hr:min)
Pot Life @ 70°F	1 hr	1 hr	1 hr	1 hr	20-30 min	10 min
Open to Traffic	6-8 hr (foot) 1 day (wheel)	6-8 hr (foot) 2 day (wheel)	6-8 hr (foot-overlay) 3 day (wheel-overlay)	2 hr (foot) 8 hr (rubber wheel)	6-8 hr (foot) 24 hr (wheel)	8-12 hr (foot) 48 hour (wheel)
Temperature Use Range	50°F-90°F	50°F-90°F	50°F-90°F	50°F-90°F	50°F-90°F	50°F-90°F
Industry Standards	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387	Meets or exceeds ASTM C387
Enhancements	High-early and normal strength, no pea gravel	High-early and normal strength, no pea gravel	High-early and normal strength, no pea gravel	Polymer-modified Corrosion inhibitor	Polymer-modified	Polymer-modified
Compressive Strength	> 3,000 psi (24 hr) > 7,000 psi (28 day)	> 2,200 psi (24 hr) > 5,500 psi (28 day)	>1,800 psi (24 hr.) >4,500 psi (28 day)	> 2,400 psi (24 hr) > 5,000 psi (28 day)	> 2,000 psi (3 day) > 3,500 psi (28 day)	> 4,000 psi (24 hr) > 7,000 psi (28 day
Suitable Substrates (Refer to Data Sheet for restrictions and notes)	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	Concrete (repairs), or full depth with forms	Concrete	Concrete
Color	Gray	Gray	Gray	Gray	Gray	Gray

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	RAPID PATCH® COMMERCIAL DOT REPAIR	RAPID PATCH COMMERCIAL DOT REPAIR EXTENDED	RAPID PATCH® CRITICAL PAVEMENT REPAIR (CPR)	RAPID PATCH® 100	RAPID PATCH® 200
					
ADVANTAGES/USES	• High-strength, fast-setting, low shrinkage, hydraulic cement mortar for concrete repair and overlays • Suitable for DOT horizontal concrete repairs • Can be extended with ⅜" minus aggregate (up to 30 lb. pea gravel per 50 lb. Commercial DOT Repair Mix) • Commercial use	• Designed for concrete repair and overlay applications requiring high durability. • Increased flexural strength and adhesion • Improves impact and tensile strengths • Contains no chlorides or magnesium phosphates • Compatible with Portland-limestone cement • Suitable for DOT horizontal concrete repairs • Cement based, non-corrosive • Non-chemical concrete • Commercial use	• Polymer-modified for excellent bond • Fiber reinforced for high flexural strength, provides excellent ductility • Very low-chloride permeability and corrosion inhibitor protects reinforcing steel • Rapid strength gain—over 4,500 psi 1 hour from start of mixing	• A fast-setting, fiber-reinforced high strength, cement-based repair mortar designed for applications where high early strength is needed • Improves impact, flexural and tensile strengths • Contains corrosion inhibitor • No chlorides or magnesium phosphates • Compatible with Portland-limestone cement • Suitable for DOT horizontal repairs • Commercial use	• A rapid-setting, fiber reinforced, high-strength, polymer-modified cement designed for concrete repair and overlay applications requiring high durability • No bonding agent needed • Alkai resistant fibers • Corrosion inhibitor • No chlorides or magnesium phosphates • Compatible with Portland-limestone cement • Suitable for DOT horizontal concrete • Commercial use
APPLICATION					
Thickness	Min ½" Max 2" neat Full depth extended	Apply 2" to 24"	Min 1" Max 8"	Apply ½" to 2"	Apply ½" **to 2"**
Initial Set Time @ 70°F	0:15 (hr:min)	0:15-0:18 (hr:min)	0:15-0:20 (hr:min)	0:37 (hr:min)	0:18 (hr:min)
Final Set Time @ 70°F	0:18 (hr:min)	0:18-0:22 (hr:min)	0:20-0:30 (hr:min)	0:46 (hr:min)	0:20 (hr:min)
Pot Life @ 70°F	10 min	15 min	10 min	30 min	15 min
Open to Light Traffic	20 min (foot) 3 hr (wheel)	3-4 hr	> 1 hr (wheel)	3-4 hr	3-4 hr
Temperature Use Range	20°F-90°F	20°F-100°F	40°F-80°F	40°F-80°F	40°F-80°F
Industry Standards	Meets or exceeds ASTM C928-R3	ASTM 928 R3	ASTM C928	ASTM C 928	ASTM C 928
Enhancements	Polymer-modified Non-corrosive	Corrosion inhibitor	Polymer, fiber, and corrosion inhibitor	Corrosion inhibitor	Fiber reinforced, corrosion inhibitor
Compressive Strength	4,000 psi (3 hr.) 10,000 psi (28 day	N/A	Varies. See data sheet.	Varies. See data sheet.	Varies. See data sheet.
Suitable Substrates (Refer to Data Sheet for restrictions and notes)	Concrete	Highway repairs, overlays, bridge decks, parking structures, airport runways, taxi-ways and freezer rooms	Airport runways, parking facilities, industrial plants, bridge deck repairs, tunnels, freezer rooms, and loading docks	Highways, overlays, bridge decks, parking structures, airport runways, freezer rooms, industrial warehouses, loading docks and wastewater treatment facilities	Highway bridge parapets, structure supports, parking garages, silos and building walls, swimming pools, cisterns and water reservoirs
Color	Gray	Gray	Gray	Gray	Gray

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