

**Sauereisen No. 54 SG** 

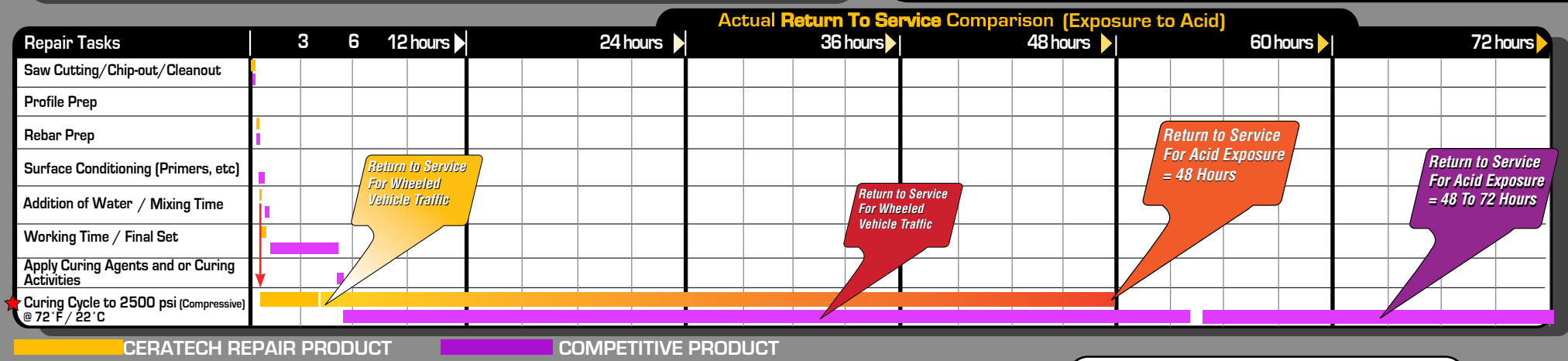
Mechanical Properties	No data for type of test specimen	3"x6" Cylinders	2" Cubes	3"x6" Cylinders
<b>Compressive Strength, psi (MPa)</b>				
1 Hour	NP			NP
2 Hours	NP			NP
3 Hours	NP			4540 (31.3)
4 Hours	NP			4800 (33.1)
6 Hours	NP			NP
24 Hours	2000 (13.8)			7477 (51.6)
7 Days	3500 (24.1)			9369 (64.6)
28 Days	NP			12,049 (83.1)
<b>Flexural Strength, psi (MPa)</b>				
7 Days	NP			1050 (7.2)
28 Days	1000 (6.9)			1110 (7.7)
<b>Tensile Strength, psi (MPa)</b>				
7 Days	NP			600 (4.1)
28 Days	550 (3.8)			720 (5.0)
<b>Bond Strength, psi (MPa)</b>				
7 Days	NP			4365 (30.1)
28 Days	NP			6310 (43.5)
<b>Scaling Resistance, lbs/ft<sup>2</sup> (kg/m<sup>2</sup>)</b>				
25 cycles	NP			0 (0)
50 cycles	NP			0 (0)
<b>Modulus of Elasticity, (MOE) - psi (GPa)</b>				
28 Days	1.97			4.72 (2.9)
<b>Coefficient of Thermal Expansion, (CTE) -in/in/°F</b>				
28 Days	5.6			1.37
<b>Length Change, % of Total Length</b>				
28 Days Soak / 28 Days Dry	NP			-0.052 / -0.057
<b>Rapid Freeze Thaw Resistance, %RDM</b>				
300 cycles	NP			100%
<b>Ponding, Chloride Ion Concentrations @ 0.5" - 1.0" depths</b>				
90 Days	NP			<0.05%
<b>Abrasion Resistance 28 day</b>				
millimeters of wear per ASTM C944 (2005)	NP			0.17
<b>Chemical Resistance 7 day 68% Sulfuric Acid Immersion</b>				
percent change in mass / (Portland Cement)	NP			5.3 / (33.8)

Mixing & Placing

Material Composition	Two component, Potassium Silicate Castable Refractory	Single component, pre-extended mineral composite, structural concrete.
<b>Site Preparation</b>	No data • No data	<b>Recommended, 1.13" min. depth • 0.06" min. surface amplitude</b>
• Saw Cutting Repair Perimeter • Surface profile	No data	<b>Remove loose scale, ensure structural integrity</b>
• Rebar Prep	Abrasive blast, high pressure wash or acid etch to clean, sound substrate	Clean, dampened w/no standing water and stable - no primers or scrub coats required
• Surface Conditioning	2.00 in. minimum depth • No data for maximum depth • cold joint interface requires liberal priming with Sauereisen Liquid additive • No data	<b>1.13" as packaged • No maximum. Do not featheredge • Can be layered (prior to subsequent placements reaching final set) • Self Consolidating</b>
• Material Profile Min. • Max. • Layerability • Consolidation		
<b>Mixing Requirements</b>	Precondition all materials to 50°F to 90°F. Maintain substrate to 65°F to 85°F for 48 hours prior to placement	None
• Special Product Prep	<b>Slow speed mortar mixer</b>	<b>Grout Mixer Concrete Mixer</b>
• Applicable Mixing Equipment	Use Liquid Part B only for mixing • 6.5 parts powder to liquid • No data	<b>Potable and Non-Potable • 2 quarts per 54 Lb. unit • adjust for slump</b>
• Mix Water Quality • Volume Required • Tolerance	<b>No data</b>	<b>50°F/10°C to 75°F/24°C depending on ambient temperatures</b>
• Mix Water Temperatures	<b>No data</b>	<b>Packaged pre-extended with 3/8" crushed granite aggregate</b>
• Aggregate Extension	<b>Liquid Part B</b>	<b>6 - 7 minutes</b>
• Additives Required	<b>5 minutes minimum</b>	
• Mixing Time		
<b>Placement</b>	<b>40 minutes • 5 Hours • No data</b>	<b>up to 30 minutes • 30 - 35 minutes • 35 - 45 minutes</b>
• Working Time @ 72°F • Initial Set • Final set	<b>50°F • 90°F</b>	<b>30°F / -1°C • 120°F/49°C • Pumpable with proper precautions</b>
• Application Temp. Min. • Max • Pumping	<b>No data - minimum 48 hours cure</b>	<b>None</b>
<b>Curing Requirements</b>	<b>72 hours in temperatures below 70°F. Do not allow substrate and material to fall below 50°F during curing period</b>	
• Clean-up • Shelf Life	<b>Water • Powder-6 months / Liquid 1 year</b>	<b>Water • 1 year</b>
• Safety	No data given on manufacturers product data sheet	Standard Portland CC handling precautions
<b>Cost Per Foot<sup>3</sup></b> Standard Package Configuration / Cost	<b>55 Lb. Bag \$41.50 / 50 Lb Pail \$127.00</b>	<b>53.5 Lb. Bag (Pre-Extended w/ high density, Low absorption, 3/8" fractured stone) / \$34.00</b>
Yield Per Standard Unit ( ft <sup>3</sup> ): NEAT   @ 50% Extension   @ 100% Extension	<b>NA</b>	<b>0.40</b>
Base Cost per ( ft <sup>3</sup> ): NEAT   @ 50% Extension   @ 100% Extension Aggregate estimated at \$0.10/lb.	<b>\$142.18</b>	<b>\$85.00</b>
<b>Estimated Secondary Repair Costs</b>		
Labor: Assumption ▶ 4 Man Crew @ Avg. Wage & Benefits = 72\$/ Hr. Hours Required To Perform material Placement To Point of Operational Use as Derived From Chart Below Includes: Site Prep, Saw Cutting, Chip-out, Clean-out, Profile Abrading Rebar Preparation, Host Conditioning, Priming, Scrub Coats, Material Preparation, Mixing, Placing, Finishing, Wet Curing Activities, Clean-up	<b>\$288.00</b> 4 Hrs @ 72.00	<b>\$288.00</b> 4.00 Hrs @ 72.00
Other Products: Assumption ▶ Includes Primers, Bonding Agents Rebar Protective Agents & Curing Compounds	<b>\$4.00</b>	<b>\$0</b>
Approximated "REAL Cost" Per 100 Sq. Foot installation	<b>\$434.18</b>	<b>\$373.00</b>

**Notes:** Sauereisen No. 54 SG Max. service Temperature = 1400°F (760°C)  
 KEMROK maximum service temperature = Up to 1800°F ( 982°C) at intermittent durations

**BEST VALUE!**  
 - Lowest Total Retainment Cost per Cubic Foot



CERATECH Product 

Competitive Product 



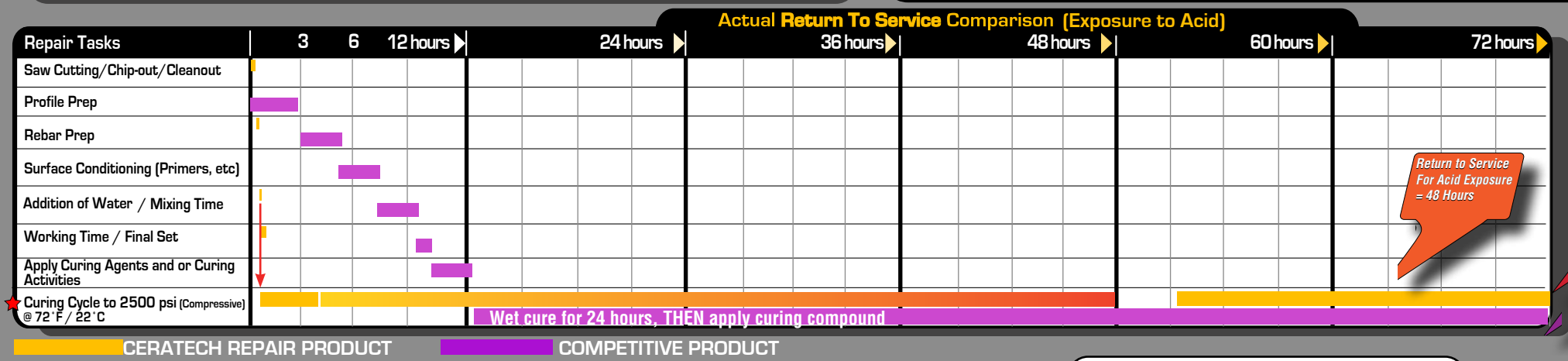
Mechanical Properties	2" Cubes	3"x6" Cylinders	2" Cubes	3"x6" Cylinders
<b>Compressive Strength, psi (MPa)</b>				
1 Hour		NP		NP
2 Hours		NP		NP
3 Hours		1,000 (6.9)		4540 (31.3)
4 Hours		NP		4800 (33.1)
6 Hours		NP		NP
24 Hours		4,500 (31.0)		7477 (51.6)
7 Days		7,800 (54.0)		9369 (64.6)
28 Days		9,000 (62.0)		12,049 (83.1)
<b>Flexural Strength, psi (MPa)</b>				
7 Days		880 (6.1)		1050 (7.2)
28 Days		1,150 (7.9)		1110 (7.7)
<b>Tensile Strength, psi (MPa)</b>				
7 Days		1,100 (7.6)		600 (4.1)
28 Days		1,250 (8.6)		720 (5.0)
<b>Bond Strength, psi (MPa)</b>				
7 Days		3,000 (20.7)		4365 (30.1)
28 Days		3,360 (23.2)		6310 (43.5)
<b>Scaling Resistance, lbs/ft<sup>2</sup> (kg/m<sup>2</sup>)</b>				
25 cycles CaCl <sub>2</sub> / NaCl		0.003 / 0.067		0 (0)
50 cycles CaCl <sub>2</sub> / NaCl		0.005 / 0.084		0 (0)
<b>Modulus of Elasticity, (MOE) - psi (GPa)</b>				
28 Days		5.1 (35)		4.72 (2.9)
<b>Coefficient of Thermal Expansion, (CTE) -in/in/ °F</b>				
28 Days		NP		1.37
<b>Length Change, % of Total Length</b>				
28 Days Soak / 28 Days Dry		NP		-0.052 / -0.057
<b>Rapid Freeze Thaw Resistance, %RDM</b>				
300 cycles		98.5%		100%
<b>Ponding, Chloride Ion Concentrations @ 0.5" - 1.0" depths</b>				
90 Days Not tested in this manner		NP		<0.05%
<b>Abrasion Resistance 28 day</b>				
millimeters of wear per ASTM C944 (2005)		2.4		0.17
<b>Chemical Resistance 7 day 68% Sulfuric Acid Immersion</b>				
percent change in mass / (Portland Cement)		NP		5.3 / (33.8)

Mixing & Placing

Material Composition	Degussa Emaco T430	Degussa Emaco T430
Single component, Portland cement based mortar	Single component, Portland cement based mortar	Single component, pre-extended mineral composite, structural concrete.
<b>Site Preparation</b>	<ul style="list-style-type: none"> <li>Saw Cutting Repair Perimeter • Surface profile</li> <li>Rebar Prep</li> <li>Surface Conditioning</li> <li>Material Profile Min. • Max. • Layerability • Consolidation</li> </ul>	Sawcut perimeter of repair ( 1.00" min depth.) • Abrade surface to min. 0.25" amplitude Remove all oxidation and scale, coat with EMACO P22 coatings, or use galvanic anodes Use bonding agent or scrub coat, pre-soak host concrete to SSD condition 1/2" Min. depth, use material NEAT for applications under 1.00" in depth. Do not featheredge • No data for maximum depth • No data • No data
<b>Mixing Requirements</b>	<ul style="list-style-type: none"> <li>Special Product Prep</li> <li>Applicable Mixing Equipment</li> <li>Mix Water Quality • Volume Required • Tolerance</li> <li>Mix Water Temperatures</li> <li>Aggregate Extension</li> <li>Additives Required</li> <li>Mixing Time</li> </ul>	Precondition materials to 72°F for 24 hours prior to using <b>Slow speed drill &amp; mix paddle or mortar mixer</b> <b>Clean • 2 quarts • plus 1 pint</b> <b>No data</b> <b>Can be extended up to 55% with 3/8" pea gravel</b> <b>No data</b> <b>3 minutes plus 2 minutes after adding add'l water</b>
<b>Placement</b>	<ul style="list-style-type: none"> <li>Working Time @ 72° F • Initial Set • Final set</li> <li>Application Temp. Min. • Max • Pumping</li> </ul>	<b>45 minutes • 75 minutes • 90 minutes</b> <b>20°F (-7°C) • 100°F (38°C)</b>
<b>Curing Requirements</b>	<ul style="list-style-type: none"> <li>Clean-up • Shelf Life</li> <li>Safety</li> </ul>	<b>Wet cure for one day followed by application of curing compound. Additional wet curing will minimize shrinkage Use CONFIRM® evaporation compound in direct sun, wind.</b> <b>Water • 6 months (store between 45°F /7°C &amp; 90°F/32°C)</b> Follow basic safety procedures for Portland based powder products
<b>Cost Per Foot<sup>3</sup></b> Standard Package Configuration / Cost		
Yield Per Standard Unit ( ft <sup>3</sup> ): NEAT   @ 50% Extension   @ 100% Extension	0.40	0.58
Base Cost per ( ft <sup>3</sup> ): NEAT   @ 50% Extension   @ 100% Extension <small>Aggregate estimated at \$ 0.10/lb.</small>	\$1165.90	\$902.88
<b>Estimated Secondary Repair Costs</b>		
Labor: Assumption ▶ 4 Man Crew @ Avg. Wage & Benefits = 72\$/ Hr. Hours Required To Perform material Placement To Point of Operational Use as Derived From Chart Below Includes: Site Prep, Saw Cutting, Chip-out, Clean-out, Profile Abrading, Rebar Preparation, Host Conditioning, Priming, Scrub Coats, Material Preparation, Mixing, Placing, Finishing, Wet Curing Activities, Clean-up	\$576.00 8 Hrs @ 72.00	\$576.00 8 Hrs @ 72.00
Other Products: Assumption ▶ Includes Primers, Bonding Agents, Rebar Protective Agents & Curing Compounds		
Approximated "REAL Cost" Per 100 Sq. Foot installation	\$3251.90	\$2988.88
		55 Lb. Paper Bag \$14.13
		53.5 Lb. Bag (Pre-Extended w/ high density, Low absorption, 3/8" fractured stone) / \$34.00
		0.40
		\$85.00
		\$288.00 4.00 Hrs @ 72.00
		\$0
		\$0
		\$373.00

**BEST VALUE!**  
- Lowest Total Retainment Cost per Cubic Foot

Notes: \* Degussa EMACO T430 must be overlaid with a Novalec epoxy coating when exposed to Sulphuric acid



CERATECH Product ▶

Competitive Product ▶ **Degussa Emaco T430**