

W440 Structural Mix

High-Strength Structural Mortar

High-strength mortar formulated with Portland cement, sands, fibers and additives, for construction and repair work above or below grade. Formulated for an accelerated compressive strength (4,500 psi @ 28 days), enhanced workability, and higher adherence and bond strength to withstand heavy loads. Can be applied by traditional masonry techniques or pumped and projected.

USES

- For structural repairs and general construction.
- For roof repair work, including damaged concrete due to corroded steel bars.
- To build and repair sidewalks and light traffic pavements.
- For projection on blocks, concrete and expanded polystyrene wire mesh panels (EPS).
- For total or partial below grade application such as foundations and retaining walls.

LIMITATIONS

- Avoid installing during sunlight high temperatures (maximum recommended installation temperature is 75°F). During hot days, use chilled mixing water and follow ACI 305 guidelines on hot weather concrete.
- Protect from strong winds and precipitation.
- Do not install at temperatures under 20°F, during the first three hour from application. Follow ACI 306 procedures for cool weather concrete.

INDUSTRY STANDARDS

- ANSI: Exceeds compressive strength requirements per ASTM C-270 Type M, ASTM C-109, ASTM C- 1714, and ASTM C-387
- LEED* Program: MR Credit 5, Regional Materials (up to 2 points).



*The use of this product can help provide valuable points for LEED (Leadership in Energy and Environmental Design) certification of projects in the categories listed above. Points are awarded based on input from all materials used in the project.

TECHNICAL DATA

Test Method	Result
ASTM C109: Compressive Strength	> 3,300 psi (31.03 MPa) at 7 day > 4,500 psi (41.37 MPa) at 28 days
Product Performance Properties at 73°F (23°C) and 50% relative humidity	
ASTM C266: Set Time	Initial: 2 hours / Final: 4 hours
Working time**	45 minutes (approximately)
Shelf life	1 year
VOCs	0 g/L

*Product performance properties at 73°F (23°C) and 50% relative humidity.

**Working time will vary based on jobsite conditions. Ambient air temperature and substrate temperature should be above 45°F (7°C) and below 90°F (32°C).

PACKAGING

Product Code	UOM Color
WE0844107	50 lbs. Gray
WE0844007	50 lbs. Gray
WE0844207	50 lbs. Gray

COVERAGE

Application	Coverage
Wall Application	Up to 22 sq.ft.@ 1/4"
As Supplied (Yield ft3)	Up to 0.45 cu. ft.
Extended with SSD Gravel (3/8")	Up to 0.68 cu. ft.

*Coverage depends on slump and substrate conditions.

SURFACE PREPARATION

Mechanically eliminate all deteriorated or loose concrete. All surfaces must be in good structural condition, clean and free of any contaminants that can affect product adhesion. Concrete and plaster surfaces must be: porous, fully cured and should not be subjected to hydrostatic pressure. Prepare substrate, exposing the aggregate to obtain a concrete profile of CSP-6 (minimum). Mechanically remove rust and treat steel reinforcement. Saturate application surface leaving no standing water (SSD) prior to product application. WECO® W440 Structural Mix™ obtains high bond strength without the use of bonding adhesives or acrylic additives. It is recommended in vertical polished concrete the use of adherents such as the WECO® W130 Rough Bond™ and in horizontal concrete the use of WECO® W800+ Durokryl™.

MIXING

1. Moisten all tools and containers to be used.
2. In a clean mixing container, add approximately 1/2 to 1 gallon (2.4 - 2.6 liters) of clean water for each 50 lbs (22.7 kg) bag. In hot weather, use cool mixing water to lengthen setting time. Do not over-water.
3. If you require to latex-modify the mix, substitute 1 part of water with WECO® W800+ Durokryl™ for every 5 parts of water (1: 5), observing the total amount of liquid recommended in the previous step.
4. Add W440 Structural Mix™ to clean water and mix slowly until a firm, lump-free, workable, homogeneous plastic consistency is achieved.
5. Prepare only the amount you can use in a 45-minute period, based on your application speed.
6. For applications greater than 1" deep, mix W440 Structural Mix™ mortar with 25 lbs. (11.4 kg) of 3/8" coarse aggregate, per bag. Basalt gravel meeting ASTM C-33 is recommended.
7. If adding aggregate to the mixture, be sure to maintain a water ratio that does not exceed a 7" slump.
8. Wash hands and tools with water immediately after mixing.

APPLICATION

1. Using a broom or scrub cover all surfaces of application to SSD substrate with the WECO®440 Structural Mix™ mixture. If the surface was treated with adhesion additives, moistening is not needed.
2. Can be applied by hand or projected.
3. Using a trowel, force mortar over the application area. Finish as desired using a smooth trowel or a wooden float.

CAUTION

Job failures can occur when applying products during hot weather temperatures (maximum recommended installation temperature is 75°F). Follow ACI 305 guidelines on hot weather concrete, moisture cure concrete and protect from wind during the first 24 hour of application.

CURING & PROTECTION

Proper curing increases the strength and durability of the mortar. Per ACI recommendations moist curing is required beginning immediately upon application. Spray the surface with water or a compatible curing compound per ASTM C309, or protect with a plastic blanket for the first 24 hours, to avoid cracking by excessive drying of the surface due to wind, rain, frost, sun and hot temperatures. Protect area from traffic for a minimum of 24 hours, depending on temperature and humidity.

SAFETY

Please refer to the Safety Data Sheet (SDS) for safety data. KEEP OUT OF THE REACH OF CHILDREN.

LEGAL DISCLAIMER

Before applying this product, customer must read the product information in this Technical Data Sheet to determine its suitability for the intended application. This product warranty is limited to its replacement or its refund value should it not comply with the specifications of the manufacturer and does not include any application costs. Customer must present original proof of purchase and submit claim in writing within 15 days from the alleged situation. The information in the Technical Data Sheet supersedes any other product information available from packaging and any other company or marketing documentation. Visit our website at www.wecopr.com for the most up-to-date official TDS.