Thick Repair Mortar

Durável TRM is a fiber-reinforced, heavy-duty cement repair mortar used to fill holes, gouges, defects, and other damage in concrete surfaces. It can also be used to build ramps and correct slope issues.

Durável TRM can be applied from a very thin edge up to 2 inches thick. For deeper repairs, it can be extended up to 4 inches thick with pea gravel.

Durável TRM gains strength quickly and is designed to reduce shrinkage cracking. This is a just-add-water repair mortar and can be installed with standard concrete tools. Use Durável LBA with Durável TRM for improved bond strength.

BAG MIXES

Technical Data

Typical Uses:

- **Driveways, Parking Lots and Decks**
- **Sidewalks and Entryways**
- **Loading Docks and Ramps**
- **Warehouse and Storage Floors**
- **Stairways and Steps**

50 lb (22.7 kg) bags (approx. 0.46 CF)

Water Demand 3.0 to 4.0 Qt

Pot Life 30 minutes (70 deg F)
Initial Set 2 to 6 hours
Full Cure 28 days

Application range 45 to 90 deg. F

Product Advantages :

- **High Compressive Strength**
- **Fiber Reinforced Tensile and Flexural Strength**
- **Resists Freeze-Thaw Cycling**
- **Repairs up to 2” Thick, Feathers to 1/8”**

Coverage:

Use neat to fill spalls and damaged areas in depth up to 2” per lift. For repairs more than 2” in depth add 20% washed pea gravel (10 pounds pea gravel per 50 pounds of mix).

1/2” Thickness = 11 ft² (1 m² @ 13 mm)

1” Thickness = 5.5 ft² (.5 m² @ 25.4 mm)

2” Thickness = 2.8 ft² (.26 m² @ 50.8 mm)

3” Thickness w/ pea gravel = 2.2 ft² (.2 m² @ 76.2 mm)

4” Thickness w/ pea gravel = 1.7 ft² (.15 m² @ 101.6mm)

Directions for Use:

Substrate Preparation:

SOUND: Concrete that is failing because of poor placement or severe environmental damage should be replaced, not

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repaired. Cracks and joints should always be considered moving areas. They may continue to move after the overlay or repair mortar is installed, which can cause the repair or overlay to crack.

Expansion and contraction joints must always be honored because they allow movement in the concrete slab. Do not cover or fill them with repair mortar. Large holes and deep divots should be filled in layers, also called lifts. Flexible joint sealant should only be installed after the repair mortar has been placed and fully cured. Before the project begins, explain this to the client so they understand what to expect. When the repair mortar is properly bonded, it will move with the concrete underneath it.

CURED: All concrete must be cured long enough for proper hydration. The recommended cure time is 28 days, depending on temperature and humidity. Concrete may cure faster or slower based on jobsite conditions. Always make sure the concrete is properly cured before applying repair mortar or coatings.

CLEAN: Surfaces must be clean and able to absorb water before they are filled or repaired. Remove all contaminants from the surface, including dust, dirt, oil, grease, paint, glue, sealers, curing compounds, release agents, efflorescence, chemicals, rust, or algae. If grinding is used for surface preparation, clean the concrete first. This helps prevent contaminants from being pushed deeper into the concrete during grinding. After grinding or any other mechanical preparation, clean the surface completely and remove all dust.

PROFILED: Acid etching should not be used on smooth or power-troweled concrete surfaces. Perform a water drop test to make sure the concrete is porous enough. Water should quickly soak into the surface and darken the concrete. If the water beads on the surface for more than 15 seconds, the concrete is not porous enough. It must be mechanically profiled by shot blasting or diamond grinding. For proper bonding, the concrete surface must be prepared to a CSP-2 or CSP-3 profile.

ENVIRONMENTAL CONDITIONS: The substrate temperature during application and curing must be between 45°F and 90°F (7°C and 32°C). Excessive wind and/or direct sun exposure may adversely affect hydration and curing. Schedule exterior applications to protect the mortar from rain for a minimum of two hours after application has been completed.

Mixing Instructions:

Mix one bag at a time in a clean 5-gallon pail using a helical mixing blade. Add 3.0 to 4.0 quarts of clean, cold water per bag. The amount of water needed may change based on the weather and the application method. For best results and longest working time, keep the water and material cool. Run hot water out of hoses before filling buckets, or fill the water buckets at the start of the day so every mix uses water at the same temperature. Keep bags out of direct sunlight.

Always measure the water first and add it to the mixing pail before adding the powder. This keeps each batch consistent. While mixing slowly, add the bag contents to the water and blend until smooth and free of lumps. Scrape the sides and bottom of the pail to make sure all dry material is fully mixed in. After all powder is wetted out, continue mixing for 2 minutes to fully blend the product.

Apply the mixed material promptly. Keep the bucket out of direct sunlight when possible to extend working time. If the material stiffens in the bucket, mix it again with the paddle to loosen it. Do not add more water. If remixing does not make the material workable again, discard it.

When adding pea gravel, rinse the aggregate first to remove dust or contaminants. Add the pea gravel to the mixed material while the aggregate is still damp. Only use pea gravel for repairs between 2 inches and 4 inches thick.

Application Instructions:

Follow the Durável LBA liquid bonding agent instructions to prime the surface before applying Durável TRM repair mortar. When the LBA has partially dried and feels tacky, pour the mixed Durável TRM directly onto the surface. Spread the material with trowels and/or squeegees to the required thickness or slope.

Do not apply Durável TRM in areas that will be permanently submerged under water.

Tips and Precautions:

Staging Area – Set up a staging area next to the work space. Use this area to change into clean shoes or spike shoes before walking on the prepared surface. This helps prevent dirt, dust, or other contaminants from being tracked onto the clean concrete.

Mixing Location – Set up the mixing station in a shaded area whenever possible. This is better for both the product and the installer. Keep bags out of direct sunlight so they do not get too hot. Hot material can cause the same problems as using hot water, such as reduced working time. Use shade from trees, buildings, or a pop-up tent when available. Do not mix in the middle of a hot concrete or asphalt surface. In cooler weather, the bags may be placed in the sun before mixing to help warm the material. This can help the product dry faster after it is placed on the concrete.

Surface Temperatures – Working on the correct concrete temperature is critical for a successful installation. Most overlays and repair mortars should be applied when the substrate temperature is between 50°F and 90°F. This means the temperature of the concrete, not the air. These products need time to soak into the porous concrete surface and create a strong chemical and mechanical bond. When the concrete surface is above 90°F, the product can set and dry too quickly. If it dries too fast, it may not have enough time to bond properly, which can lead to early failure. On hot days, start work early and stop when the concrete becomes too hot. In cooler weather, the concrete temperature can drop below 50°F. Cold concrete can hold too much moisture and may prevent the overlay or repair mortar from soaking in and bonding properly. If the product does not fully dry before the sun sets, freezing temperatures or frost can cause the coating to freeze and fail. When working in cooler temperatures, wait until the concrete temperature is rising above 50°F. Stop work early enough so the product can fully dry before the air temperature drops below freezing.

Water Temperature – Consistent water temperature is important for a successful installation. One common mistake is using water from a hose that has been sitting in the sun. The water inside the hose can become very hot. Hot water will greatly reduce working time and may cause the product to start setting up in the bucket. Before using hose water, run the water for about 60 seconds to help bring it to a consistent temperature. A good practice is to fill several clean buckets with water before the installation begins. This helps avoid using hot hose water during the job. Using bucket water that is all near the same temperature helps keep each mix consistent.

Measure Water Accurately – Use a graduated measuring container to make sure the same amount of water is used in every batch. Consistent water measurement helps keep the mix and color consistent from batch to batch. Measure the water on a level surface. A bucket turned upside down can work as a flat surface if needed. Measure in the same place and in the same way each time. For even better consistency, make a dedicated measuring pail. Cut a drain hole in the side of a 5-gallon pail at the correct water level. This makes it much harder to add too much water to the mix.

Proper Mixing – The best tool for mixing cement overlays and repair mortars is a helical mixing paddle attached to a 1/2-inch drill or a two-handled mortar mixer. Always add the measured water to the mixing bucket first. If an Overlay Color Pack is being used, add it to the water and blend it before adding the bagged mix. A strong mixer should be able to wet out a full bag in less than one minute. Once the powder is fully wet, scrape the sides and bottom of the bucket with the mixing paddle or a margin trowel. This helps loosen any dry material stuck to the bucket. After that, continue mixing for 2

more minutes to make sure all components are fully blended.

Do Not Add Water – After the mix is blended and you have started placing it on the surface, do not add more water if it becomes stiff in the bucket. Adding water after the chemical reaction has started can speed up hardening and may weaken the product. If you mix a bag and immediately see that more water is needed, that is the correct time to add it. Do not wait until the product has already been used for a while. If the mix starts to stiffen in the bucket, spin it again with the mixing paddle. This may loosen the material and give you a little more working time. If the mix stays stiff, discard it and mix a new bag. Do not force material that has started to set onto the surface.

Application – Only pour out what can be used on the surface within 2 to 3 minutes. Unlike epoxy, cement overlay products can stay in the mixing bucket while you work. You do not need to pour the entire bucket out at once. Putting too much material on the ground at one time can cause it to be worked too much. As the wet overlay or repair mortar is pulled across the surface, it begins to soak into the concrete. If too much material is placed at once, it may get moved back and forth too many times. When this happens, the mix can turn into a paste that is mostly aggregate. If this occurs, remove the paste from the surface. Do not add water!

Clean Up:

Clean tools and mixing vessels with water. Capture runoff as necessary to protect downstream surfaces. Remove wet material from adjacent surfaces before it dries. Dried material may be loosened with Concrete Eraser or light acids; test an inconspicuous spot to ensure that the surface is not damaged by the cleaning process.

Maintenance:

Durável TRM may be applied as a stand-alone repair or used to prepare for overlay systems. Keep the finished surface clean with leaf blowers, hose-pressure water and mild detergents. Using a pressure washer for cleaning will hasten abrasion and shorten the service life of the repair.

Cured Physical Properties:

The concrete industry switched from Portland Cement to Portland Limestone Cement (ie Type IL) in late 2022. All Durável cementitious mixes are formulated with PLC, and all data listed is from tests performed on current formulas. Use caution when comparing performance data to other products that may be out of date. See https://www.duravel.com/portland-cement-now-portland-limestone-cement-plc/ for more information about PLC.

Initial Set: ASTM C-266, 285 to 315 minutes (varies with temperature)

Final Set: ASTM C-266, 305 to 335 minutes (varies with temperature)

Compressive Strength: ASTM C-109, 3275 psi at 7 days (22,580 kPa)

Flexural Strength: ASTM C-580, 862 psi at 7 days (5,943 kPa)

Tensile Strength: ASTM C-307, 584 psi at 7 days (4,027 kPa)

Tensile Bond Strength: ASTM C-1583, 285 psi at 7 days (substrate failure)

Freeze-Thaw Cycling: ASTM C-666M, 50 cycles PASS

Slip Resistance Disclaimer:

Notice: The Occupational Safety and Health Administration (OSHA) and the American Disabilities Act (ADA) have set enforceable standards for slip-fall protection on walking surfaces. The ADA standards are the more stringent and require a minimum coefficient of friction (CoF) on level walking surfaces of 0.6 and on ramped walking surfaces of 0.8. The system applicator/ end user assumes all responsibility to provide a flooring system that meets all current safety standards. Neither Durável nor its selling agents will be responsible for any injury that may be incurred in a slip-fall accident. Furthermore, Durável recommends the use of slip-resistant aggregate in all coatings or floor systems that could possibly be exposed to wet conditions or become contaminated with oils, grease, or other potential lubricants.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from moisture.

Disposal:

Recycle and/or dispose of contents and containers in accordance with local, regional, national, and international regulations.

Shelf Life:

Up to one year from original manufacture date when stored in its original, unopened container at room temperature. May be extended with reasonable care.

Limitations:

This product is not intended for public use and is intended for use by qualified contractors and installers with proper experience and training in the use of these products, and that have read the complete safety data sheet. Apply product only when substrate and ambient temperatures are within the accepted range.

Warranty:

IMPORTANT!

Before using any Durável product, read and understand its accompanying Safety Data Sheet & Application Instructions for important safety information.

STANDARD TERMS AND CONDITIONS OF SALE, INCLUDING STANDARD WARRANTY APPLY – VISIT Durável.com FOR THE LATEST VERSION.

Disclaimer:

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material

designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Durável assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Durável assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety precautions are followed.

Safety Instructions:

For Professional Use Only

Keep Out of Reach of Children and Animals

Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure by inhalation.

Obtain, read and follow all safety instructions before use. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands and exposed skin thoroughly after handling. Wash hands thoroughly after handling. Do not touch eyes. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: wash with plenty of water and soap. IF ON SKIN: Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes. If skin irritation or rash occurs: Get medical help. Take off immediately all contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately. Get medical help if you feel unwell. IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get emergency medical help.

PROP65 WARNING: This product contains chemicals known to the state of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Always Review SDS & Technical Data Prior to Use