Ardex X77

Ardex X77 Microtec Fiber Reinforced Tile and Stone Mortar Instruction Manual

Model: X77

1. INTRODUCTION

The Ardex X77 Microtec Fiber Reinforced Tile and Stone Mortar is a high-performance, polymer-modified mortar designed for installing various tile types, including porcelain, glass, quarry, ceramic, and most natural stone tiles. Its advanced formulation with microfibers provides excellent bond strength, sag resistance, and flexibility, making it suitable for large format tiles, high-traffic areas, wet environments like swimming pools, and exterior building facades. This manual provides essential information for safe and effective use of the product.

2. SAFETY INFORMATION

Always prioritize safety when working with cement-based products. Review the Safety Data Sheet (SDS) before use. The following general precautions should be observed:

- **Personal Protective Equipment (PPE):** Wear appropriate PPE, including safety glasses, gloves, and a dust mask or respirator, especially during mixing.
- **Ventilation:** Ensure adequate ventilation in the work area to minimize inhalation of dust.
- **Skin and Eye Contact:** Avoid prolonged skin contact. In case of contact, wash thoroughly with water. If mortar gets into eyes, flush immediately with plenty of water for at least 15 minutes and seek medical attention.
- **Ingestion:** Do not ingest. If swallowed, do not induce vomiting. Seek immediate medical attention.
- **Storage:** Store in a cool, dry place, away from direct sunlight and moisture. Keep out of reach of children and pets.

3. PRODUCT OVERVIEW AND FEATURES

Ardex X77 is engineered for demanding tile installations, offering a range of features that enhance performance and ease of use:

- **Advanced Technology:** Features MICROTEC fiber reinforcement and polymer modification for superior performance.
- **Versatile Application:** Suitable for high-traffic areas, exterior facades, in-floor heating systems, and swimming pools.

- **Extended Open Time:** Provides a remarkable 60-minute open time, which is double the ISO standard, allowing for more flexible tile placement.
- **Superior Sag Resistance:** Offers unmatched sag resistance, also double the ISO standard, crucial for large format and heavy tiles.
- **Outstanding Coverage:** Each 40 lbs. bag covers approximately 110 sq. ft. when using a 1/4" square notch trowel.
- **Highly Flexible:** Features a 3-hour pot life, providing ample working time.
- **Water and Frost Resistant:** Ensures durability in various environmental conditions.

Image 1: Ardex X77 Mortar bag highlighting features like unique creamy consistency, 60-minute open time, suitability for high traffic areas, and water/frost resistance.

Image 2: Ardex X77 Mortar bag emphasizing superior performance features such as unmatched sag resistance, leading innovations for large tiles, outstanding coverage, and high flexibility.
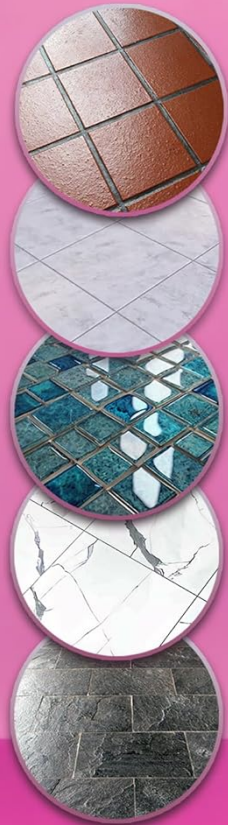
Image 3: Ardex X77 Mortar indicating suitability for Quarry, Ceramic, Glass tile, Porcelain, and Natural stone.

Image 4: Explanation of Ardex Microtec Technology, detailing high performance microfibers blended with quality polymers and cements for sag resistance, bond strength, open times, and creamy consistency.

4. SETUP AND PREPARATION

4.1 Surface Preparation

The substrate must be clean, dry, structurally sound, and free of dust, dirt, oil, grease, paint, curing compounds, and any other contaminants that may inhibit bond. Ensure the surface is level and within acceptable tolerances for tile installation. For interior applications, Ardex X77 can be used over concrete, masonry, and exterior-grade plywood. For exterior applications, it is suitable for concrete and masonry surfaces.

4.2 Mixing Instructions

Proper mixing is crucial for optimal performance. Follow these steps:

1. **Water Quantity:** Refer to the packaging for the exact water-to-powder ratio. Typically, for a 40 lb (18 kg) bag, approximately 5.5 to 6.0 quarts (5.2 to 5.7 liters) of clean, cool water are required.
2. **Mixing Vessel:** Use a clean mixing bucket.
3. **Add Water First:** Pour the recommended amount of clean water into the mixing bucket.
4. **Add Powder:** Gradually add the Ardex X77 powder to the water while mixing with a low-speed drill (300 rpm

or less) and a mixing paddle.

5. **Mix Thoroughly:** Mix until a smooth, lump-free, creamy consistency is achieved. Avoid over-mixing, which can entrain excessive air.
6. **Slake Time:** Allow the mixture to slake (rest) for 5-10 minutes. This allows the polymers to fully hydrate.
7. **Remix:** Briefly remix the mortar for 30 seconds before application. Do not add more water after the initial mix.

The pot life of the mixed mortar is approximately 3 hours at 70°F (21°C). Higher temperatures will reduce pot life.

5. Operating (Application)

5.1 Trowel Selection

Select the appropriate trowel size based on the tile size and type. For large format tiles, a larger notch trowel (e.g., 1/4" x 3/8" x 1/4" or 1/2" x 1/2" x 1/2") is recommended to ensure proper mortar coverage. For smaller tiles, a 1/4" x 1/4" x 1/4" square-notch trowel may be sufficient.

5.2 Mortar Application

1. **Spread Mortar:** Apply a thin coat of mortar to the substrate with the flat side of the trowel, pressing firmly to achieve maximum contact.
2. **Comb Mortar:** Immediately follow with additional mortar, combing it with the notched side of the trowel to create uniform ridges. Hold the trowel at a 45-degree angle to the surface.
3. **Back-Butter Tiles (Optional but Recommended for Large Format):** For large format tiles (15" x 15" or larger) or uneven-backed tiles, apply a thin layer of mortar to the back of the tile (back-buttering) to ensure 100% coverage and prevent voids.
4. **Place Tiles:** Place tiles firmly into the wet mortar, sliding them slightly to ensure full contact and collapse the mortar ridges.
5. **Check Coverage:** Periodically lift a tile to verify proper mortar transfer and coverage (aim for 90-100% coverage for interior dry areas, 95-100% for wet areas and exterior installations).
6. **Adjust Tiles:** Tiles can be adjusted within the 60-minute open time.
7. **Clean Excess:** Remove any excess mortar from the tile surface and grout joints before it hardens.

6. Maintenance and Curing

Proper curing is essential for the mortar to achieve its full strength and durability.

- **Protection:** Protect newly installed tile from heavy traffic, moisture, and extreme temperatures for at least 24-72 hours, depending on environmental conditions.
- **Grouting:** Grout joints typically after 24 hours for walls and 48 hours for floors, or when the mortar has sufficiently set to prevent disturbance.
- **Full Cure:** The mortar will achieve its full strength and water resistance after approximately 7 days. For swimming pools and exterior applications, allow a minimum of 14-21 days for full cure before exposure to water or heavy use.

7. Troubleshooting

Here are some common issues and potential solutions:

- **Poor Bond:**
  - Ensure substrate is clean and free of contaminants.

- Verify proper mortar coverage (back-buttering may be needed).
- Check if tiles were placed within the open time.
- Ensure correct water-to-powder ratio during mixing.

- **Mortar Drying Too Fast:**

  - Work in smaller sections.
  - Avoid working in direct sunlight or high temperatures.
  - Ensure substrate is not excessively absorbent.

- **Mortar Not Setting:**

  - Verify correct water-to-powder ratio.
  - Ensure ambient and substrate temperatures are within recommended ranges (typically 50°F - 90°F / 10°C - 32°C).
  - Check for excessive moisture in the substrate.

- **Sagging Tiles:**

  - Use the correct trowel size for the tile.
  - Ensure proper mortar consistency (not too wet).
  - Allow for sufficient initial set before applying pressure.

8. SPECIFICATIONS

Key technical specifications for Ardex X77 Microtec Fiber Reinforced Tile and Stone Mortar:

Attribute	Value
Material	Polymer-modified cement with microfibers
Brand	Ardex
Item Weight	40 Pounds (18 kg)
Water Resistance Level	Water Resistant
Item Form	Powder
Color	White
Surface Recommendation	Floor, Tile, Wall (Concrete, Masonry, Exterior-grade Plywood)
Open Time	60 minutes
Pot Life	3 hours
Coverage (approx.)	110 sq. ft. per 40 lb bag (with 1/4" sq. notch trowel)
Grout Time (approx.)	24 hours (walls), 48 hours (floors)
Full Cure Time (approx.)	7 days (14-21 days for wet/exterior applications)

9. WARRANTY AND SUPPORT

For specific warranty information regarding the Ardex X77 Microtec Fiber Reinforced Tile and Stone Mortar, please refer to the official Ardex website or contact Ardex customer service directly. Warranty terms and conditions may vary based on region and application. Keep your purchase receipt as proof of purchase.

For technical support, product inquiries, or assistance with specific installation scenarios, please contact Ardex technical services. Contact details can typically be found on the product packaging or the official Ardex website.