

DEPENDABLE CHEMICAL COMPANY**Guide Specification for DEPENDABLE WEARFLOW
SECTION 03540****Self-Leveling, Cement-Based, Wear Resistant Concrete Floor Resurfacing Material**

Dependable Wearflow is a latex modified, cement-based, self-leveling wear resistant concrete floor resurfacing and topping material. Wearflow's superior abrasion resistance makes it an excellent choice for resurfacing concrete floor surfaces in commercial, institutional, or industrial areas.

This guide specification is for use by qualified design and construction professional only, and must be edited to meet project requirements. For current product information and technical support, call Dependable at 1-800-227-3434.

PART 1 GENERAL**1.01 SUMMARY**

- A. Section includes: Floor patching and leveling required prior to installation of floor coverings. Scope of repair work [is shown on Drawings.] [includes _____].]
 - B. Related Documents: Drawings, Conditions of Contract, Division 1 - General Requirements and other Contract Documents affect this Section.
 - C. Related Sections:
 - 1. Section [01100 – Alteration Project Procedures] [02070 – Selective Demolition for Remodeling].
 - 2. Section [09000 – Finishes].
-

1.02 REFERENCES

- A. American Society for Testing and Materials:
 - 1. ASTM C109 Modified - Compressive Strength of Hydraulic Cement Mortars.
 - 2. ASTM C348 Modified - Flexural Strength of Hydraulic Cement Mortars.
 - 3. ASTM C307 - Tensile Strength of Chemical Resistant Mortars, Grouts, and Monolithic Surfacing.
 - 4. ASTM C266 - Time of Setting of Hydraulic Cement Paste by Gilmore Needle.
 - 5. ASTM E1155 - Method for Determining Floor Flatness and Levelness Using the "F-Number" System.
 - 6. ASTM F1869 – Standard Test Method for Measuring the Moisture Vapor Emission Rate of a Concrete Subfloor.

1.03 SUBMITTALS

- A. Submit:
 - 1. Manufacturer's product data sheets and installation instructions to prove compliance with specified requirements.
 - 2. [Sample of manufacturer's limited warranty and warranty application procedures.]

DEPENDABLE CHEMICAL COMPANY

1.04 QUALITY ASSURANCE

- A. Qualifications:
1. Contractor shall be knowledgeable and well trained in the use of floor resurfacing material repairs.
 2. The product supplied shall be Dependable, Wearflow, a latex modified, blended cement-based self-leveling resurfacing material.
- B. Field Samples Application: At location on Project selected by [Architect] [Engineer], perform substrate preparation work using methods proposed for Project. Notify Architect/Engineer to allow observation. Install a sample of material using similar techniques that will be used on the project. The sample size shall be ___ft. x ___ft. Accepted sample establishes standard for Work. Complete application when no longer needed for reference.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Comply with manufacturer's instructions. Deliver in original, unopened packaging. Store in dry conditions and protect from direct sun exposure, freezing, and extreme heat (greater than 105F.(41C)).

1.06 PROJECT CONDITIONS

- A. Environmental Requirements
1. Hot weather: Comply with ACI 305. Do not apply in extreme heat (greater than 105F(41C)).
 2. Cold weather: Comply with ACI 306. Do not apply when ambient, surface, or material temperature is below 50F. (10C.).

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Dependable Chemical Company, phone 1-800-227-3434.
- B. Substitutions: Comply with [Instructions to Bidders] [_____] for substitution request procedures.

2.02 MATERIALS

- A. Primer, for all surfaces, shall be Dependable Primer SL.
- B. Water shall be clean, cool, and potable.
- C. Factory blended, latex modified, premixed cement-based self-leveling resurfacing material. Available products, subject to compliance with requirements, are limited to the following:
1. a. Wearflow
 2. Technical Data

All data is based on using 4.75 quarts of water per 50 lbs. of Wearflow

- a. Compressive Strength (ASTM C109): 4,500 psi (31 Mpa) @ 24 hours

DEPENDABLE CHEMICAL COMPANY

	Modified	8,000 psi (55 MPa) @ 28 days (F-1)	
b.	Flexural Strength (ASTM C348) Modified:	1,300 psi (8.90 Mpa) @ 28 days.	
c.	Tensile Strength (ASTM C307):	540 psi (5.10 MPa) @ 28 days	
d.	Density, Wet:	129 lbs. / c.f.	
	Density, Dry:	124 lbs. / c.f.	
e.	Working Time:	20 minutes.	(F-2)
f.	Set Time, Final (ASTM C266):	1 hour 15 minutes	(F-2)

2.03 EQUIPMENT

- A. Pumps: Comply with manufacturer's instructions.
- B. Mixing devices: When mixing by drill and paddle method
 1. The drill should be at least ½" in size and capable of generating 150 – 450 RPM.
 2. The paddle may be an epoxy mixer (egg beater / cage), jiffy mixer, rectangular speedy mixer, or other type designed not to entrain or entrap air.

PART 3 EXECUTION

3.01 PREPARATION

- A. All concrete substrates must be solid, sound, clean, and primed.
 1. Concrete substrates: All concrete substrates must be sound, clean, and free of dirt, dust, grease, curing compounds, or any other material which might prevent adhesion. Application over textured surfaces will achieve the best bond. Concrete that has been steel troweled should be mechanically prepared (ie. Bead blast, scarified, etc.). The material is susceptible to chemical reactions in the presence of metal particles, metal oxides, or gypsum materials, therefore these materials must be thoroughly cleaned from the floor. Acid etching is not acceptable.
 2. All transition points, or edges between the existing surface and the area to be repaired must be sawcut. It is preferred to create the sawcut slightly deeper (1/8-1/4") than the topping thickness. This allows the Wearflow to lock itself into place, creating a smooth, durable transition point.
- B. The substrate shall be watertight. Any holes, cracks, etc. shall be repaired prior to priming. Patching should be done with a cement-based, or blended cement-based material, such as Skimcrete XL..
- C. The substrate shall be checked for moisture. Hydrostatic pressure or excessive moisture must be corrected. Consult technical assistance.

3.02 PRIMING

- A. Prime all surfaces with Primer SL. Use a long-handled roller, soft bristle broom, or paint brush to apply Primer SL. Do not dilute. Apply evenly across the surface, removing any puddles or excess primer. Coverage rates may vary depending upon the substrate and its porosity. Very porous substrates may require two coats.
- B. Do not apply Wearflow until the Primer SL is dry (about 1 hour @ 70F.(21C) and 50% relative humidity). Apply the Wearflow the same day as the primer, or re-prime.

3.03 INSTALLATION

DEPENDABLE CHEMICAL COMPANY

A. Mixing

1. Use a clean mix container. Pour in proper amount of clean, cool water and add the powder slowly. If the mixing device does not produce a lump free mix, try using 2/3 of the water, adding all the powder until wet, and then add the remaining water.
2. Water / powder ratio is 5.5 quarts (5.20494 liters) of water to 50 pounds (22.5 kg) of powder.
3. Mix material in a drum with a slow mixer at 150 – 450 RPM using a paddle or similar tool designed to avoid air entrapment. Mix for at least 2 minutes, but not more than 3 minutes to a homogeneous lump free consistency. If predicted flow (slump) is not achieved, the installer may add no more than 1/4 quart of water per bag. Never use more than 5 quarts of water per 50 lb. bag.
 - a.) Larger quantities may be mixed in a mortar mixer. Carefully add materials to the mixer being careful to avoid spillage. Do not over water.
 - b.) Pumps may be used to place Wearflow. Follow the instructions provided by the pump manufacturer, be careful to ensure proper mixing prior to placement. Please contact technical services for recommendations on pump equipment.
4. Pump or pour material on to the substrate. Do not re-temper or add water. Wearflow is highly flowable for at least 15 minutes (@ 70 F. (21C.)). The material can be moved with a screed set to an appropriate depth. Pumping should be continuous, being careful not to create any cold joints. Wear spiked shoes while working in the wet material to avoid leaving marks. Once the Wearflow starts to set, stay off the floor until it has reached final set (approximately 1.25 hours @ 70 F. (21 C.)). (F-2)
5. Direct sunlight, heat, and wind can cause rapid drying of the product which can lead to shrinkage and cracking. To avoid rapid drying, provide protection against these elements.
6. Sealing / coating. A sealer or coating may be preferred for appearance, cleanliness, and added chemical resistance. Wearflow is compatible with most products. Coatings, such as water based epoxy coatings, may be applied within 6 – 8 hours, under ambient drying conditions.

3.04 PRECAUTIONS AND LIMITATIONS

- A. Do not use where surface or air temperature falls below 50 F. (10 C.) within 72 hours before or after installation or when finished floor is subject to freeze within 7 days.
- B. Do not use where hydrostatic pressure or excessive moisture conditions exist.
- C. Designed for interior use over concrete surfaces.

F-1 The modification for ASTM C109 and ASTM C348 consists of air curing the samples versus the standard's procedures of placement in a lime bath for 28 days. All other procedures are followed.

F-2 When timing is referenced, tests were conducted at 70 F. (21 C.) with a relative humidity of 50 – 60%.

END OF SECTION