

## Kwörtz Flooring System – 3/16” Double Broadcast

### Part 1 – General Information

Kwörtz flooring system is a seamless decorative resin flooring system consisting of clear, 100% solids epoxy resin filled with a variety of graded quartz, marble or ceramic fillers which can be modified to create the best design mix for ideal performance and appearance. The installed flooring system can be textured or smooth as desired. The decorative quartz aggregates are available in a series of pre-blended patterns or solid colors.

### Part 2 – Surface Preparation

Surface Preparation is the most critical portion of any successful resinous flooring system application. All substrates must be properly prepared as outlined in Technical Bulletin -1. Specific attention should be paid to the following:

- a) Concrete Placement - An efficient vapor barrier should be directly under slabs on or below grade to prevent moisture migration
- b) Curing and Finishing techniques of the concrete substrate
- c) Age of concrete
- d) Previous contamination of the substrate
- e) Present condition of the substrate
- f) Make sure the floor is free of moisture vapor transmission

Also, the temperature conditions of the area to receive the flooring system should be checked. An optimum room temperature of 75°F with a slab temperature of 50°F is required for proper cure of the resin flooring system.

### Part 3 – Material Quantities

#### A. Guideline System Requirements for 1000ft<sup>2</sup> – 3/16” Double Broadcast

1	Perdüre E02	100% solids epoxy primer	4.0gal
2	Perdüre E10 <sup>b</sup>	100% solids epoxy body coat (1 <sup>st</sup> seed coat)	22gal
3	Filler	Self leveling filler	425lb
4	Kwörtz	For full broadcast	500lb
5	Sand	#30 Broadcast Sand	550lb
5	Perdüre E10 <sup>b</sup>	100% solids epoxy body coat (2 <sup>nd</sup> seed coat)	12gal <sup>a</sup>
6	Kwörtz	For full broadcast	450lb
7	Perdüre E10 <sup>b</sup>	100% solids epoxy body coat (grout coat)	12gal
5	Perdüre E10 <sup>b</sup>	100% solids epoxy seal coat (optional seal coat)	5-6gal <sup>a</sup>
6	Perdüre U50 <sup>c</sup>	Solvent based polyurethane top coat	3-4gal <sup>a</sup>

a. Coverage rate varies depending upon the desired finish texture

b. For high chemical resistance flooring system, replace Perdüre E10 with Perdüre NE33, 100% solids Novolac epoxy coating

c. Alternate topcoats: Perdüre P70, Perdüre U45, Perdüre U46

## Part 4 – Installation – 3/16” – Double Broadcast

### A. Priming

While priming is optional on broadcast systems, Düraamen recommends that every flooring system be installed with a primer to insure maximum adhesion to the prepared substrate. Priming will also help to seal air in the concrete and prevent outgassing and air bubbling in the finished system.

#### 1. Mixing Endüra E02\*, low modulus epoxy primer

- a) Stir each component prior to mixing.
- b) Mix two (2) parts by volume of Part A (base) with one (1) part by volume of Part B (hardener) for three minutes with a low speed electric drill mixing paddle.
- c) If thinning is desired, add no more than one pint of Xylene per gallon of epoxy at the time of mixing.
- d) **Mix only that amount of material that can be used in 20-25minutes. Do not let mixed material sit in the mixing container longer than 5 minutes or working time will be significantly reduced.**

*\* If the moisture vapor emission rate or moisture content exceeds the stipulated maximums, use Perdüre MVT in lieu of Perdüre E02.*

#### 2. Application

- a) Pour primer onto the prepared concrete substrate.
- b) Spread with either a flat trowel or squeegee to a coverage of 250-275ft<sup>2</sup> per gallon.
- c) Back roll with a short nap roller.
- d) Broadcast lightly with dry 30-mesh sand if allowed to cure longer than 24hours before topcoating.

3. Allow the Primer to cure for 12-16 hours.

### B. First Seed Coat

#### 1. Mixing Perdüre E10 epoxy binder

- a) Stir each component prior to mixing.
- b) Mix four (4) parts by volume of Part A (base) with one (1) part by volume of Part B (hardener) for three minutes with a low speed electric drill mixing paddle.
- c) Continue mixing while slowly adding self-leveling filler to the premixed Perdüre E10.
- d) Continue mixing resin/filler for 3 to 4 minutes or until material is blended to a uniform consistency. The mix has the appearance of ‘pancake batter’.
- e) **Mix only that amount of material that can be used in 20-25minutes. Do not let mixed material sit in the mixing container longer than 5 minutes or working time will be significantly reduced.**

#### 2. Application

- a) Place mixture on primed surface and spread with 1/4” V-notched trowel or 1/4” V-notched squeegee pulling the material toward you in a ‘figure-8’ pattern. Leave a ‘wet line’ or puddle of material between batches to avoid ‘knit-lines’ in the finished system.
- b) Back-roll system with a spiny roller while material is still wet. To minimize marks in finished system, the contractor should wear ‘spiked’ shoes while walking on wet material.

- c) Allow the material to level for approximately 10 minutes. If surface or room temperatures are below 70°F, some of the self-leveling filler can be left out of the mix to improve fluidity of the mix. Slab and room temperature should be maintained at minimum 70°F and maximum 90°F for best results.

*Termination points at the end of the day should be made at doorways, expansion joints, etc. If it is not possible to terminate at these points, 2" masking tape should be placed in a straight line at the ending point. Carefully trowel the material up to and slightly over the inside edge of the tape. Allow material to cure for about thirty (30) minutes and remove the tape.*

### 3. Broadcast to excess

Broadcast Kwörtz granules in the wet floor system until the surface of the system appears dry. Be careful not to clump the material or produce high spots. Broadcast by hand or power blower high into the air, doing multiple light broadcasts, gradually filling up the resin. Approximately 4 to 5 lbs of Kwörtz granules will be needed for 10ft<sup>2</sup> area. If termination the system with tape as described in the note above, broadcast sand up to the tape and remove after material cures for thirty (30) minutes. *Remember to only walk on the wet surface while wearing spiked shoes!!! Do not walk on the floor after broadcasting.*

4. Allow the seeded floor to cure overnight, 14-16 hours. Sweep excess sand with a stiff bristled broom or power vacuum. Optional: It helps to sand the floor in two directions using a pole sander, rubbing stone or buffer with 36grit sandpaper. Be careful with buffer to avoid missing spots or burning a pattern into the Kwörtz granules. Sweep and vacuum after sanding procedure.

## C. Second Seed Coat

### 1. Mixing Perdüre E10 epoxy binder

- a) Stir each component prior to mixing.
- b) Mix four (4) parts by volume of Part A (base) with one (1) part by volume of Part B (hardener) for three minutes with a low speed electric frill mixing paddle.
- c) **Mix only that amount of material that can be used in 20-25minutes. Do not let mixed material sit in the mixing container longer than 5 minutes or working time will be significantly reduced.**

### 2. Application

- a) Immediately pour mixed material onto the floor in strips and spread at a rate of 100 to 110ft<sup>2</sup> per gallon using a trowel or squeegee. A notched trowel or notched squeegee will help to achieve even distribution. If using a flat squeegee or trowel, it is recommended that the material be lightly back rolled with a medium-nap roller to smooth and level any tails or ridges.
- b) To minimize marks in the finished system, the contractor should wear 'spiked' shoes while walking on wet material.
- c) Allow the material to level for approximately 10-15 minutes.

*Termination points at the end of the day should be made at doorways, expansion joints, etc. If it is not possible to terminate at these points, 2" masking tape should be placed in a straight line at the ending point. Carefully trowel the material up to and slightly over the inside edge of the tape. Allow material to cure for about thirty (30) minutes and remove the tape.*

### 3. Broadcast to excess

Broadcast Kwörtz granules in the wet floor system until the surface of the system appears dry. Be careful not to clump the material or produce high spots. Broadcast by hand or power blower high into the air, doing multiple light broadcasts, gradually filling up the resin. Approximately 4 to 5 lbs of Kwörtz granules will be needed for 10ft<sup>2</sup> area. If termination the system with tape as described in the note above, broadcast sand up to the tape and remove after material cures for thirty (30minutes). *Remember to only walk on the wet surface while wearing spiked shoes!!! Do not walk on the floor after broadcasting.*

4. Allow the seeded floor to cure overnight, 14-16 hours. Sweep excess sand with a stiff bristled broom or power vacuum. Optional: It helps to sand the floor in two directions using a pole sander, rubbing stone or buffer with 36grit sandpaper. Be careful with buffer to avoid missing spots or burning a pattern into the Kwörtz granules. Sweep and vacuum after sanding procedure.

### D. Grouting and Sealing

The grouting and sealing of a floor should be performed over the entire area receiving the system. The applicator should complete the double seed portion of the application prior to grouting and sealing. The coverage rate and number of the applied grout and seal coats dictate the final texture. Higher coverage rates will yield rougher textures.

#### 1. Grouting

- a) Mix Perdüre E10 as described in the section above.
- b) Spread Perdüre E10 at a rate of approximately 75-80ft<sup>2</sup> per gal over the rough granules surface using a flat trowel or squeegee tightly over the surface.
- c) Lightly back-roll the material with a short nap roller to help spread the material and eliminate trowel marks.
- d) Allow material to cure at least 14-16 hours.

#### 2. Seal Coat

##### 2.1 Using Perdüre E10 epoxy binder

- a) Mix Perdüre E10 as described in the section above.
- b) Application
  - i. Spread Perdüre E10 at a rate of approximately 100-200ft<sup>2</sup> per gallon (depending upon the desired finish texture) over the surface using a flat trowel or squeegee tightly over the surface.
  - ii. Lightly back-roll the material with a short nap roller to help spread the material and eliminate the trowel marks.
  - iii. Allow material to cure at least 14-16 hours if top coating.
  - iv. Open to light traffic after 24 hours. Full chemical cure and maximum resistance are achieved in seven (7) days.

##### 2.2 Using Perdüre U50 (if specified)

- a. Mixing

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- i. Thoroughly mix each component prior to combining.
  - ii. Mix two (2) parts by volume of Part A (resin) with one (1) part by volume of Part B (hardener) for three minutes with a low speed electric drill mixing paddle.
  - iii. **Do not mix more material than can be used in 45 minutes.**
- b. Application
- i. Pour material onto the floor in a line and spread with a flat squeegee to a coverage of 250-300ft<sup>2</sup>/gallon. This will yield 3 to 4 mils dry film thickness. Two coats may be required if roller marks are evident. 'Dip and roll' technique from a paint pan is also acceptable if small batches are mixed.
  - ii. Immediately back roll with a short nap roller to even the surface texture of the coating. Do not delay the back roll or cross roll. Do this with a slow, careful technique to avoid entraining air.
  - iii. Open to light traffic after 24 hours. Full chemical cure and maximum resistance are achieved in five (5) days.