

Three Part Spec: WECU

SECTION 09618  
CORK UNDERLAYMENT

PART 1      **GENERAL**

1.01    RELATED DOCUMENTS

A.      All of the Contract Documents, including Drawings and general provisions of the contract including General and Supplementary Conditions and Division 1 - General Requirements apply to the work of this Section.

1.02    SUMMARY

A.      Work Included: This Section specifies WECU for the following applications:

1.      Sound control under tile and stone flooring.
2.      Sound control under wood flooring.
3.      Stress crack suppression under tile and stone flooring.

B.      Related Sections: Other Specification Sections which directly relate to the work of this Section include, but are not limited to, the following:

1.      Section 03300, Cast-In-Place Concrete; Concrete substrate to receive cork flooring.
2.      Section 06100, Rough Carpentry; Plywood underlayment.
3.      Section 09300, Tile; Tile flooring.
4.      Section 09630, Stone Flooring; Stone flooring.
4.      Section 09640, Wood Flooring; Wood flooring.

1.03    SUBMITTALS

A.      Product Data: Submit manufacturer's printed product data, test reports and installation instructions. Include materials, finishes, required substrate preparation, adhesives, and accessories.

B.      Samples: Submit representative samples of each material.

1.04    QUALITY ASSURANCE

A. Manufacturer: For each material type required for the work of this section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to the manufacturers of the primary materials.

B. Subfloor: All subfloor work shall be in accordance with the recommendations of the following:

1. Tile Floors: Tile Council of America (TCA) and ANSI requirements.
2. Wood Floors: National Oak Flooring Manufacturers Association (NOFMA), Maple Flooring Manufacturers Association (MFMA), and National Wood Flooring Association (NWFA), as applicable.

D. Acoustical: Product shall be tested in accordance with ASTM E 90 and ASTM E 492 for STC and IIC values, respectively.

E. Mock-Up: Prior to commencing the primary work of this section, provide a 4 ft. x 4 ft. mock-up of each WECU type for approval. Remove and replace mock-up which is not approved. Approved mock-up built in place may be incorporated into the finished work.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and products in factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage from weather, excessive temperatures, and construction operations.

## PART 2 PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURER

A. Provide WECU manufactured by WE Cork, 16 Kingston Road, Unit 6, Exeter, New Hampshire 03833; Toll-free telephone 800-666-CORK; Telephone 603-778-8558; Fax 603-778-7052.

### 2.02 CORK UNDERLAYMENT

A. Cork Underlayment for Sound Control: WECU conforming to the following:

1. WECU-Soundless: 6 mm (nominal 1/4 in.) thick sound control underlayment furnished in 4 ft. x 100 ft. rolls or 3' x 4' sheets.

2. WECU-Soundless+: 1/2 in. thick sound control underlayment furnished in 3 ft. x 4 ft. sheets.

B. Cork Underlayment for Stress Crack Suppression: WECU conforming to the following:

1. WECU-Crackless+: 3/64 in. thick stress crack suppression underlayment furnished in 3 ft. x 50 ft. rolls.

C. Material Properties:

**Soundless/Soundless+:**

1. Binder: Resin.
2. Manufacturing Process: Extrusion.
3. Density: Minimum 16 lb. per cubic foot.
4. Material Specification: AASHTO M 153; ASTM D 1752.
5. Recovery: Comprehensive recovery shall be no less than 97% with a load no less than 50 psi and no greater than 1500 psi.
6. Expansion from Moisture: No more than 2% moisture after being immersed in boiling water for 1 hour.
7. Hydrochloric Acid at Boiling, 1/2 hour: No disintegration.
8. Dimensional Changes, ASTM D 1770: Less than or equal to 0.5%.
9. Thermal Conductivity, ASTM C 177: "R" value of 2.6 for 1/4 in. thick material.
10. Robinson Floor Test performance level: residential rating

**Crackless+**

1. Binder: Polymeric
2. Cork Granule Size (mm): 0.5/1
3. Color: Black
4. Density ASTM F 1315: >0.4
5. Hardness, Shore A ASTM F 2240: >40
6. Compressibility @ 100 PSI (%) ASTM F 36: 15-30
7. Recovery @ 100 PSI (%) ASTM F 36: >80
8. Compressibility @ 400 PSI (%) ASTM F 36: 30-50
9. Recovery @ 400 PSI (%) ASTM F 36: >75
10. Tensile strength (kg/cm<sup>2</sup>) ASTM F 152: Transversal: >5, Longitudinal: >8
11. Flexibility: Original (F5) ASTM F 147: No cracks

12. Compression Set: 70 hrs, 50% def, RT (%) Din 53 572: <25
13. Thermal Conductivity (Kcal/m.h. degrees C) ASTM C 518: .0775

D. Adhesives: Moisture cured urethane or sanded thin set mix with minimum acrylic latex solids of 20%, as acceptable to cork underlayment manufacturer.

E. Expansion Joint: WECU Expansion Joint.

### PART 3 EXECUTION

#### 3.01 SUBSTRATE PREPARATION

A. Examine substrates and conditions where cork underlayment will be installed. Do not proceed with WECU installation until unsatisfactory conditions are corrected.

B. Concrete Substrate: Subfloor shall be clean and dry, and within acceptable tolerances.

1. Concrete: Test concrete for moisture using standard calcium chloride moisture test. Moisture content shall be less than 3.0 lb. per 1000 sq. ft. per 24 hour period.
2. Porous and Absorbent Subfloors: Apply a primer or thin coat of adhesive on porous and absorbent subfloors to prevent adhesive from "disappearing" into the surface.
3. Fill cracks with latex floor filler.

C. Plywood Substrate: Subfloor shall be clean and dry, and within acceptable tolerances. Subfloor shall be a minimum of 18 in. above grade. Provide acceptable subfloor.

#### 3.02 INSTALLATION OF WECU

A. Strictly comply with manufacturer's instructions and recommendations.

B. Installation: Install WECU materials in the areas indicated.

Concrete

1. Spread moisture cured urethane or thinset with acrylic latex on concrete subfloor with flat side of trowel to achieve good bond to substrate. Use notched side of trowel to prepare adhesive for placing of underlayment. Use adhesive manufacturers recommended trowel size.
  2. Install WECU snugly to walls and partitions, butting seams.
  3. Roll WECU with 75-100 lb. roller starting in the center and rolling to the outer edge to eliminate air bubbles.
  4. Tape joints and seams with minimum 1 in. wide duct tape or fiberglass mesh tape.
  5. For Sound Control Installations: Leave a ¼" gap between perimeter wall and flooring. Insert WECU expansion joints or WECU Soundless (6mm) material or acoustical sealant to prevent sound from being transmitted through the walls.
- C. Protection: Protect WECU from damage until installation of finish flooring materials.

#### Wood Sub Floor

1. Spread moisture cured urethane on subfloor with flat side of trowel to achieve good bond to substrate. Use notched side of trowel to prepare adhesive for placing of underlayment. Use adhesive manufacturers recommended trowel size.
  2. Install WECU snugly to walls and partitions, butting seams.
  3. Roll WECU with 75-100 lb. roller starting in the center and rolling to the outer edge to eliminate air bubbles.
  4. Tape joints and seams with minimum 1 in. wide duct tape or fiberglass mesh tape.
  5. For Sound Control Installations: Leave a ¼" gap between perimeter wall and flooring. Insert WECU expansion joints or WECU Soundless (6mm) material or acoustical sealant to prevent sound from being transmitted through the walls.
- C. Protection: Protect WECU from damage until installation of finish flooring materials.

D. Finished Flooring Installation: Install finished flooring over WECU in accordance with finish flooring specifications, and as follows:

1. Ceramic Tile Flooring: Install tile over WECU using a sanded thin set mortar gaged with acrylic latex to insure strong bond of tile and WECU.
2. Marble or Stone Flooring: Install marble or stone using a medium bed mortar gaged with acrylic latex or install using a thickset (mudset) method.
3. Adhered Wood Flooring: Install wood flooring using wood flooring manufacturer's recommended adhesive; do not use nails or screws.

4. Floating Type Wood Flooring: Install floating type wood flooring in accordance with manufacturer's recommendations.
5. Nailed Wood Flooring: Where mechanically fastened wood flooring is to be used, install wood flooring on double layer plywood substrate floating on top of WECU. After installation of WECU, install two layers of 3/8 in. thick plywood glued and screwed together at right angles. Do not mechanically fasten plywood substrate into WECU layer. Wood flooring shall be nailed or stapled to plywood substrate in accordance with wood flooring manufacturer's recommendations; no nails shall penetrate through plywood substrate into WECU layer.

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