

RubberForm Recycled Products Spill Containment
SECTION 44 41 00 Water Pollution Containment & Cleanup Equipment
SECTION 44 41 34/36 Prefabricated Spill Containment Curbing/Berms

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes: Division 44 applies to this section.

1. Municipal, industrial, institutional, commercial, campus, and other pollution and waste control equipment other than water and wastewater treatment equipment. Division includes equipment for air pollution control, noise pollution control, odor control, water pollution control, solid waste control, and waste thermal processing. Water and wastewater treatment are located in Division 46. Water pollution control equipment in this Division is limited to equipment used for preventing and containing pollutants and treating pollutants without transporting the water elsewhere for treatment.

B. Related Work specified elsewhere:

1. Section 44 41 34 Prefabricated Spill containment curbing.
2. Section 44 41 36 Prefabricated Spill containment berms.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. C531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-resistant Mortars, Grouts and Monolithic Surfacing.
2. C642 Test Method for Density, Absorption and Voids in Hardened Concrete.
3. C672 Test Method for Scaling Resistance of Concrete Surfaces Exposed to De-icing Chemicals.
4. D412 Test Methods for Rubber Properties in Tension.
5. D573 Test Method for Rubber – Deterioration in an Air Oven.
6. D395 Standard Test Methods for Rubber Property – Compression Set.
7. D746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
8. D2240 Test Method for Rubber Property – Durometer Hardness
9. D2370 Test Method for Tensile Properties of Organic Coatings.

B. MasterFormat 2007

44 31 13, Spill Cleanup, includes spill cleanup kits, spill cleanup absorbents and sorbents, and spill dispersants See: 01 56 16 for temporary barriers used during construction See: 01 57 00 for temporary erosion and sediment control during construction See: 03 00 00 for concrete used in concrete containment structures See: 13 34 00 for fabricated, corrosion-resistant structures for hazardous materials containment See: 31 24 00 for earthen berms and embankments See: 31 25 00 for erosion and sediment controls See: 33 30 00 for in-water containment booms and structures for wastewater overflow control, including combined sewer overflow controls See: 35 41 13 for landside levees and earthen berms along waterways See: 46 00 00 for water and wastewater treatment equipment. See: 46 25 00 for oil-water and oil-grease separation equipment used in water and wastewater treatment

1.03 SUBMITTALS

- A. Product Data: Submit for all products proposed for use, describing physical characteristics, sizes, patterns and method of installation.
- B. Shop Drawings: Submit dimensioned location plan and attachment details.
- C. Test Reports: Provide certified test reports, prepared by an independent testing laboratory, showing conformance to specified quality standards. Test results shall represent average results for production goods and shall be not over two (2) years old.
- D. Closeout Submittals:
 - 1. Maintenance Data: Submit manufacturer's recommended cleaning and maintenance data as specified in Section 01700. Include maintenance procedures, recommended maintenance materials and suggested schedule for cleaning.

1.04 SUBSTITUTIONS

- A. Concrete poured berm with rebar for reinforcement.
- B. Proposed substitutions to be considered shall be manufactured of equivalent materials that meet or exceed specified requirements of this Section.
- C. Proposed substitutions shall be identified not less than ten (10) days prior to bid date.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer: Company with a minimum of two (2) years documented experience in the installation of similar type berms, recycled rubber systems and approved by the purchaser.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the installation site in the manufacturer's original packaging.

1. Packaging shall contain manufacturer's name, product color, identification number and other related information.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. RubberForm Recycled Products, LLC.

2.02 MATERIALS

- A. Rubber composite material: 100 percent recycled rubber with polyurethane prepolymer binder, compression molded; resistant to UV, moisture and oil; complying with the following:

1. ASTM C642 Minimum density of 0.6 oz/cubic inch minimum.
2. ASTM D2240 Minimum Durometer hardness of 64
3. ASTM D412 Minimum 210 psi tensile strength of primary structural components.
4. ASTM D395 Minimum compression deformation of 10 percent at 70 psi and 68 degrees F.
5. ASTM D746 Low temperature brittleness of -40 degrees F..

6. **ASTM Chemical resistance**

- B. Adhesive – Sealant - Caulk: RubberForm Recycled Products recommended polyurethane sealant and caulk is solvent free adhesive, non-toxic, nonflammable, waterproof; complying with the following:

1. Viscosity: 800,000+ CPS Brookfield RVF, TF spindle, 4RPM, 73F.
2. Solids: 100%
3. Color : Black
4. Working or Open Time: Up to one hour.
5. Adhesive GreenSpec listed product
6. Flash Point: 250 degrees F.
7. Freeze-Thaw Stability: Does not freeze.
8. Storage Stability: One year.
9. Shrinkage: None.

10. Maximum VOC: Less than 20 grams/liter

11. Supplied in 10.3 oz. tubes.

C. Type Adhesive/Sealant/Caulk – Silkaflex 1A black

D. Type Adhesive/Sealant/Caulk – ChemLink M1

E. Type Adhesive/Sealant/Caulk – ASI 57 – Modified Urethane Adhesive/Sealant

2.03 MANUFACTURED UNITS

A. RubberForm Recycled Products, spill containment berm is manufactured from 100 percent recycled rubber (crumb), ground and blended with polyurethane. Made in the USA.

B. Listed in the EPA Environmentally Preferred Products.

C. RubberForm products are GreenSpec listed for potential credits in projects seeking LEED certification.

1. Resistant to warping, cracking, chipping and rotting.

2. Flexible and capable of conforming to irregularities in surface.

3. 5 holes for installation stability

4. Finish: Black body .

5. Size: 4-¼ inch X 6 inch by 65 inches long.

Total weight: 55 pounds

Can be cut to various sizes – mitered corners – 90 and 45 degree cuts. Cuts with special blade.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that substrates are smooth and flat and ready to receive the Work.

B. Verify that floor and ambient air temperature are within temperature range recommended for proper curing of adhesive. Do not install with adhesive when floor is wet.

3.02 PREPARATION

A. Clean floor thoroughly and remove debris, oil build-up, dust from surface and surrounding area.

B. Wash floor with detergent, degreaser, water and allow drying.

3.03 Spill containment berm INSTALLATION

A. Installation on concrete surface: Attach spill berms with lag bolts, shields and washer. Drill ½ inch diameter holes through indicated marks on berm, penetrating berm to reach substrate

material. Insert lag shield into drilled hole (use recommended adhesive/sealant/caulk for added strength) and into substrate until flush with top of berm. Adhere berms to concrete with adhesive in accordance with reposition and adjust berms within 5 minutes of adhesive application. Allow adhesive to cure undisturbed for twenty-four (24) to forty-eight (48) hours minimum.

3.04 FIELD QUALITY CONTROL

- A. Arrange for customer to provide field service specialist at commencement of installation to instruct installer in methods and to assure that project conditions are satisfactory.

3.05 ADJUSTING

- A. Adhesive allows repositioning within the first hour after application. Immediately after placement, adjust and reposition berms and center in the space width.

3.06 CLEANING

- A. Immediately after placement and adjustment, remove excessive adhesive, dirt/dust from drilling.

END OF SECTION