Standards Council of Canada
Conseil canadien des normes

CAN/ULC-S668-12

STANDARD FOR LINERS USED FOR SECONDARY CONTAINMENT OF ABOVEGROUND FLAMMABLE AND COMBUSTIBLE LIQUID TANKS

1 SCOPE

1.1 This Standard sets forth minimum requirements for the material properties and performance of liners used for secondary containment under and around the area of tanks that are installed aboveground for the storage of flammable liquids and combustible liquids.

1.2 Liners used for secondary containment are intended for permanent installation to contain spills or leakage of product for a temporary period. In the event of spills, the removal and cleanup should be done within a period not exceeding 14 days.

NOTE 1: These secondary containment liners are not intended for long term or permanent storage of product spills or leakage. Adequate means of monitoring and cleanup is required along with proper use and installation in accordance with Codes and regulations of the authority having jurisdiction. Please see Clause 1.8.

NOTE 2: In case of product spills or leakage, the secondary containment liners shall be re-evaluated according to the requirements of the authority having jurisdiction.

1.3 A secondary containment liner is defined in this Standard as one of the following types:

A Reinforced coated fabrics or polymer films laminated onto textile substrates;
B Non-reinforced - polymer films or extruded polymeric panels; and
C Spray-on-type - secondary containment liners intended to be field installed using spray equipment and requiring geotextile or other substrate material for support.

1.4 A secondary containment liner similar to any of those described in Clause 1.3 may differ in design and construction as defined in Clause 1.3, provided it meets the requirements of this Standard.

1.5 Secondary containment liners shall be suitable for use as secondary containment under and around aboveground tanks, and shall be designated as Class IA, Class IP, Class IIP, or Class III, in accordance with the liquids they are intended to contain, as listed below. Each class of secondary containment liners shall be tested with the appropriate chemicals for that class as defined in Table 1.

A Class IA secondary containment liners shall be suitable for use with flammable liquids, flammable liquids containing ethanol or methanol , combustible liquids and combustible liquids containing up to 5% biodiesel (B5);
B Class IP secondary containment liners shall be suitable for use with petroleum derived

flammable liquids and combustible liquids, (excluding oxygenated fuels) and combustible liquids containing up to 5% biodiesel (B5);
C Class IIP secondary containment liners shall be suitable for use with petroleum derived combustible liquids and combustible liquids containing up to 5% biodiesel (B5); and
D Class III secondary containment liners shall be suitable for use for the containment of a specific
chemical to which the secondary containment liner is additionally tested to, and marked in accordance with Clause 6.3.

1.6 These secondary containment liners are intended for use with flammable liquids and combustible liquids such as fuel, kerosene, lubricating oils, hydraulic oils and grease formulated in accordance with any one of the following documents:

A CAN/CGSB 3.18, Diesel Fuel for Locomotive - Type Medium - Speed Diesel Engines;
B CAN/CGSB 3.2, Heating Fuel Oil;
C CAN/CGSB 3.3, Kerosene;
D CAN/CGSB 3.5, Automotive Gasoline;
E CAN/CGSB 3.517, Automotive (On-road) Diesel Fuel;
F CAN/CGSB 3.520, Automotive Low-Sulphur Diesel Fuel Containing Low Levels of Biodiesel Esters (B1-B5);
G CAN/CGSB 3.6, Regular Sulphur Diesel Fuel;
H CAN/CGSB 5.511, Oxygenated Unleaded Automotive Gasoline Containing Ethanol;
I ANSI/ASTM D396, Standard Specification for Fuel Oils;
J ASTM D910, Standard Specification for Aviation Gasoline;
K ANSI/ASTM D975, Standard Specification for Diesel Fuel Oils;
L ASTM D1655, Standard Specification for Aviation Turbine Fuels;
M ASTM D2880, Standard Specification for Gas Turbine Fuel Oils;
N ANSI/ASTM D3699, Specification for Kerosene;
O ANSI/ASTM D4814, Standard Specification for Automotive Spark-Ignition Engine Fuel;
P ASTM D5797, Standard Specification for Fuel Methanol (M70-M85) for Automotive Spark-Ignition Engines;
Q ANSI/ASTM D5798, Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark Ignition Engines;
R ASTM D6227, Standard Specification for Grade 82 Unleaded Aviation Gasoline;
S ASTM D6448, Standard Specification for Industrial Burner Fuels from Used Lubricating Oils;
T ASTM D6751, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels;

NOTE: Application of the ASTM D6751 fuel is only for Class III secondary containment liners.

U ASTM D6823, Standard Specification for Commercial Boiler Fuels With Used Lubricating Oils; and V ASTM D7467, Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20).

1.7 These secondary containment liners may also be recognized by the authority having jurisdiction to be used with other products where the secondary containment liners have been investigated for such products.

1.8 The installation, maintenance and operation of these secondary containment liners are not within the scope of this Standard, and shall be in accordance with, but not limited to, any of the following documents:

A National Fire Code of Canada;
B CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products;
C Canadian Environmental Protection Act 1999;
D P.C. 2008-1048, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations; and
E Regulations of the authority having jurisdiction.

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