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Standard Guide for Selection of Booms in Accordance With Water Body Classifications¹

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1. Scope

1.1 This guide covers the selection of containment boom that may be used to control spills of oil and other substances that float on a body of water.

1.2 This guide does not address the compatibility of spill control equipment with spill products. It is the user's responsibility to ensure that any equipment selected is compatible with anticipated products.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D 751 Test Methods for Coated Fabrics

F 625 Practice for Classifying Water Bodies for Spill Control Systems

F 715 Test Methods for Coated Fabrics Used for Oil Spill Control and Storage

F 1093 Test Methods for Tensile Strength Characteristics for Oil Spill Response Boom

3. Summary of Guide

3.1 Recommendations for the selection of spill containment booms are given for five key boom characteristics that affect

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

performance for each of four water body types (see **Table 1**). Notes accompanying **Table 1** discuss the qualifying factors associated with the minimum values listed, as well as the significance of the values as minimums. Classification criteria for the four water body types are given in Practice **F 625**.

4. Significance and Use

4.1 This guide is to be used to assist in the selection of containment boom in accordance with water body classifications.

4.2 A small number of key parameters that generally affect boom performance have been used in **Table 1**, in order to enable the user to readily identify general criteria for boom selection.

4.3 Many factors, other than those listed in **Table 1**, may be important in selecting containment boom for a particular application. Such factors include: flotation element length, wave length, the effect of stronger than minimum required strength members, shock loads, abrasion resistance, stability in roll, resistance to bridging, interval between anchor points and hand holds, use of reflectors or lighting, compatibility with fresh or salt water, and resistance to sunlight exposure.

4.4 The values given in **Table 1** are the recommended minimums for general purpose booms. As identified in 2.3, operational considerations may require trade-offs in boom properties. Special purpose booms, and general purpose booms used in special circumstances, may perform effectively with boom property values above or below those recommended in **Table 1**.

4.5 Effective operation of oil spill control equipment depends on many factors, of which the prevailing environmental conditions are just a few. Factors such as, but not limited to, deployment techniques, level of training, personnel performance, and mechanical reliability can also affect equipment performance.

5. Keywords

5.1 boom; oil spill; oil spill control equipment