American National Standard for Flood Mitigation Equipment

ANSI/FM Approvals 2510-2020

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Foreword

NOTE: This foreword is introductory only and is not part of American National Standard FM 2510.

This standard is intended to be used to evaluate the components and performance of flood mitigation equipment.

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Approval of an American National Standard requires verification by ANSI that the principles of openness and due process have been followed and that a consensus of those directly and materially affected by the standard has been achieved. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached.

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ANSI regulations require that this American National Standard shall be revised, reaffirmed or withdrawn within five years of the date of publication.

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1. INTRODUCTION

1.1 Purpose

1.1.1 This standard states the examination and test requirements for flood mitigation equipment for use in riverine, tidal, or rainfall/snowmelt related flood conditions.

1.2 Scope

1.2.1 This standard encompasses the design and performance requirements for flood mitigation equipment for use in controlling riverine, tidal, or rainfall related flood conditions. Flood mitigation equipment is categorized for specific flood protection applications which are designated by:

- Function (permanent or contingent)
- Operation (active or passive)
- For flood barriers, the intended application for protection (i.e. opening vs. perimeter)

1.2.2 This standard sets performance requirements for flood mitigation equipment in the following product categories:

- Flood Barriers for Opening Barrier Applications
- Flood Barriers for Perimeter Barrier Applications
- Flood Mitigation Valves
- Flood Mitigation Pumps
- Penetration Sealing Devices

1.2.2.1 Flood glazing, as defined in Section 1.7, is considered a type of flood barrier that may be evaluated for opening barrier or perimeter barrier applications. The evaluation of flood glazing shall include the seal made between the glazing panel and the structural frame as well as the seal made between the frame and the structural opening.

1.2.2.2 For the purposes of evaluation to this Standard and applying the appropriate protocol, sluice gates, as defined in Section 1.7, are considered a type of flood barrier for opening barrier applications.

1.2.2.3 Penetration sealing devices include products used to seal the area around a surface penetration or the area within the penetration itself, the later which includes pipe plugs.

1.2.3 Flood barriers for opening barrier applications are evaluated and tested for quasi-static flood conditions.

1.2.4 Flood barriers for perimeter barrier applications are evaluated and tested for quasi-static and riverine flood conditions.

1.2.5 Flood barriers for coastal applications are not included in the scope of this Standard. Protection from tidal-related flood events is included in the scope of the Standard only for applications away from the coast where only quasi-static flood conditions are present.

1.2.6 Wind loading effects on flood barriers are not included in the scope of the evaluation. A full engineering analysis must be conducted by persons acceptable by the Authorities Having Jurisdiction (AHJ) to determine possible wind loading, as well as combined hydrostatic and wind loading, on a barrier structure.

1.2.7 The certification of flood barriers applies only at water levels up to the maximum depth rating, as identified on the product label. Water levels exceeding this amount are outside the scope of this certification.

1.2.8 Flood mitigation pump types included in the scope of this standard consist of submersible and pedestal type sump pumps as well as self-priming pumps.