

MH27.1 – 2009
(a reaffirmation of MH27.1 – 2003)



Specifications for Patented Track Underhung Cranes and Monorail Systems

Abstract:

Applies to underhung cranes whose end trucks operate on the lower flange of a patented-track runway section; and to carriers (trolleys) operating on single-track patented-track monorail systems, including all curves, switches, transfer devices, lift and drop sections, and associated equipment. Does not apply to systems for transporting personnel. These proposed specifications do not apply to enclosed-track runway sections, enclosed-track monorail systems, structural-shape runway sections, or structural-shape monorail systems.



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A Division of Material Handling Industry
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Published by

Monorail Manufacturers Association, Inc.
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a division of Material Handling Industry
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Printed in the United States of America.

ANSI MH27.1 – 2009
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American National Standard

Specifications for Patented Track Underhung Cranes and Monorail Systems

Monorail Manufacturers Association, Inc. (MMA)

An Affiliated Trade Association of Material Handling Industry of America,
A Division of Material Handling Industry

Approved December 2, 2009

American National Standards Institute, Inc.

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This standard, which was developed under the ANSI Canvass method and approved by ANSI on December 2, 2009, represents suggested design practices and performance testing criteria for crane and monorail equipment. It was developed with the sole intent of offering information to parties engaged in the manufacture, marketing, purchase, or use of crane and monorail equipment. This standard is advisory only and acceptance is voluntary and the standard should be regarded as a guide that the user may or may not choose to adopt, modify, or reject. The information does not constitute a comprehensive safety program and should not be relied upon as such. Such a program should be developed and an independent safety adviser consulted to do so.

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Foreword (This foreword is not part of American National Standard MH27.1-2009)

This standard was sponsored by the Monorail Manufacturers Association, Inc. in the interest of improved uniformity of patented track underhung crane and monorail performance and enhanced public safety. Since the intention of this standard is to encourage better communication between the manufacturer and the user, it should be regarded as a guide rather than a rigid specification.

This standard was first published as a Monorail Manufacturers Association, Inc. consensus standard in 1973. Since this original publication, the member companies of MMA have recognized the need to expand user awareness of this standard. As a result, it has been subjected to the American National Standards Institute's Canvass Review procedure and approved as an ANSI Standard June 8, 1981. That standard was revised and approved on December 27, 1996 as MH27.1-1996 replacing MH27.1-1981, then standard was revised and approved September 11, 2003 as MH27.1-2003. Now the standard has been reaffirmed following editorial changes to add clarification to existing requirements.

At the date of approval of this standard, the Monorail Manufacturers Association, Inc. consisted of the following member companies:

Acco Material Handling Solutions
Columbus McKinnon Corporation (CM)
Demag Cranes & Components Corporation
Gorbel, Inc.
Ingersoll-Rand Co.
Spanco, Inc.
TC/American Monorail Inc.
United States Monorail, Division of American Crane and Hoist Corp.

Suggestions for improvement, and questions regarding interpretation of this standard will be welcome. They should be sent to: MH 27.1 Committee (MMA), Material Handling Industry of America, 8720 Red Oak Blvd., Suite 201, Charlotte, NC, 28217-3992 or standards@mhia.org.

SPECIFICATIONS FOR PATENTED TRACK UNDERHUNG CRANES AND MONORAIL SYSTEMS

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SPECIFICATIONS FOR PATENTED TRACK UNDERHUNG CRANES AND MONORAIL SYSTEMS

SECTION 1 – Scope

- 1.1 These specifications apply to underhung cranes whose end trucks operate on the lower flange of a patented-track runway section; and to carriers (trolleys) operating on single-track patented-track monorail systems, including all curves, switches, transfer devices, lift and drop sections, and associated equipment. Systems used for transporting personnel require special considerations and are not included in these specifications. These specifications do not apply to enclosed-track runway sections, enclosed-track monorail systems, structural-shape runway sections, or structural-shape monorail systems. Refer to MMA MH27.2, Specifications for Enclosed Track Underhung Cranes and Monorail Systems for enclosed-track runway sections and enclosed-track monorail systems.
- 1.2 Hoist(s) and/or carrier(s) may be supplied by the crane manufacturer, crane distributor, crane installer, or by the purchaser. In either case, the hoist(s) and carrier(s) shall comply with the applicable sections of ASME/ANSI B30.16, Safety Standard for Overhead Hoists (Underhung); ASME B30.11, Safety Standard for Monorails and Underhung Cranes and appropriate ASME HST Performance Standards. If the hoist(s) and/or carrier(s) are supplied by the purchaser, the crane builder shall be provided with certified dimensional drawings with all required data including wiring diagrams, carrier collector locations and weights.
- 1.3 This specification includes consideration for cranes and monorail equipment only. It does not include considerations or specifications for the design of the building, the design of supporting structure, electrical power supply, or erection.
- 1.4 This specification applies to normal ambient temperatures and atmospheric conditions; any other conditions require special consideration.

SECTION 2 – Referenced Specifications and Standards

Reference is made to portions of other specifications within the text of these specifications. Referenced specifications and the publishers are as follows:

MMA MH27.2 *Specifications for Enclosed Track Underhung Cranes and Monorail Systems*

Publisher:

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