



CMAA Specification No. 74 - 2020

SINGLE GIRDER CRANES

CMAA SPECIFICATION NO. 74-2020
SPECIFICATIONS FOR TOP RUNNING AND UNDER RUNNING SINGLE GIRDER
ELECTRIC TRAVELING CRANES UTILIZING UNDER RUNNING TROLLEY HOIST

INTRODUCTION

This Specification has been developed by the Crane Manufacturers Association of America, Inc. (CMAA), an organization of leading electric overhead traveling crane manufacturers in the United States, for the purpose of promoting standardization and providing a basis for equipment selection. The use of this Specification should not limit the ingenuity of the individual manufacturer but should provide guidelines for technical procedure.

In addition to Specifications, the publication contains information which could be helpful to the purchasers and users of cranes and to the engineering and architectural professions. While much of this information must be of a general nature, it may be checked with individual manufacturers, and comparisons may be made, leading to the selection of the proper equipment.

These Specifications consist of nine Sections, as follows:

- 74-1 General Specifications
- 74-2 Crane Classification
- 74-3 Structural Design
- 74-4 Mechanical Design
- 74-5 Electrical Equipment
- 74-6 Inquiry Data Sheet and Speeds
- 74-7 Appendix
- 74-8 Glossary
- 74-9 Index

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SUMMARY OF CHANGES SINCE THE 2015 REVISION OF SPECIFICATION #74

Article 1.4.1.1.1, 1.4.1.2.1	Runway rail cleanliness
Table 1.4.1-1	Modification of runway rail straightness and elevation
Article 1.4.2	Anchorage / Restraints Devices
Article 1.5.4, 5.11	Runway/bridge conductors combined in one article
Article 1.7	Revision of section
Article 1.7.3	FEA design statement
Article 3.3.2.5.3	Addition of in service wind load to collision load case
Article 3.4.4.3	Corrected error in formula
Article 3.4.7	Addition of load case for fatigue
Article 3.5.1	Girder proportions
Article 3.5.5	Deflection and camber
Article 3.6.4	End truck deflection
Article 3.10	Restraint Devices
Article 5.2.1.3.1	Motor design for inverter applications
Article 5.5.6	Dynamic braking resistors in conductive dust
Article 5.4.7.5	Practices inside enclosures (new)
Article 5.4.7.6	Practices outside enclosures (new)
Article 5.4.7.7	Suppression devices (new)
Article 5.5.5 & 5.13.2	Removed duplication and changed text
Article 5.5.6	Resistors in conductive dust (new)
Article 5.6.10	Modified text (addition of intentional reset)
Figures 5.7.3c, 5.8.1, 5.15.6	Added recommended layouts for cab, pendant and radio
Article 5.9.3.4	Added text for operation with molten metal
Article 5.11.8	Conductor Bar Isolation Sections
Article 5.13.12	Regenerative power considerations
Article 5.13.13	Application of IEEE 519 for cranes
Article 5.15	Wireless data (new)
Article 5.18	Magnet controls (new)
Article 5.19	Rail clamps (new)
Appendix	Added appendix for non-mandatory crane design information
Glossary	Anchorage
Glossary	Common mode failure
Glossary	Conductive dust
Glossary	Critical load drop
Glossary	EMC
Glossary	EMI
Glossary	Hazardous locations
Glossary	Intentional reset
Glossary	Magnet
Glossary	Magnet controller
Glossary	Plain Reversing Control changed for Reversing Control
Glossary	Regenerative power system
Glossary	Restraint
Glossary	RFI
Glossary	Modified Undervoltage Protection definition

CMAA SPECIFICATION INTERPRETATION REQUEST PROCEDURE

A request for interpretation of CMAA's specifications is to be designated as an "Action Alert Inquiry."

Only written inquiries about interpretations and the applicability of CMAA Specifications 74 will be given a response by the CMAA Engineering and Safety Advocacy Workgroup. CMAA does not provide: design guidance, design critique, advice, comments on non-CMAA documents, etc. Inquiries of this nature, if received, will be declined.

Send all written requests for interpretation of Specifications 70, 74 and 78, identifying the particular Specification and the Section numbers in question via email to cmaa-info@mhi.org or via Fax to 704-676-1199 to the attention of CMAA.

Interpretation requests must identify the sender by name, title, company name, address and telephone number and be on company letterhead. They must also be specific and concise.

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1. CMAA assigns an Action Alert Inquiry number to each written inquiry.
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3. Response time for inquiries typically range from one week to one month, if balloted.

This Specification is accompanied by explanatory commentaries.

The commentaries in this Specification are not a part of the Specification and do not constitute a formal interpretation of the Specification (which can be obtained only through requests as indicated above). The commentaries, therefore, solely reflect the personal opinions of the editor or other contributors and do not necessarily represent the official position of CMAA or its technical committees.

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