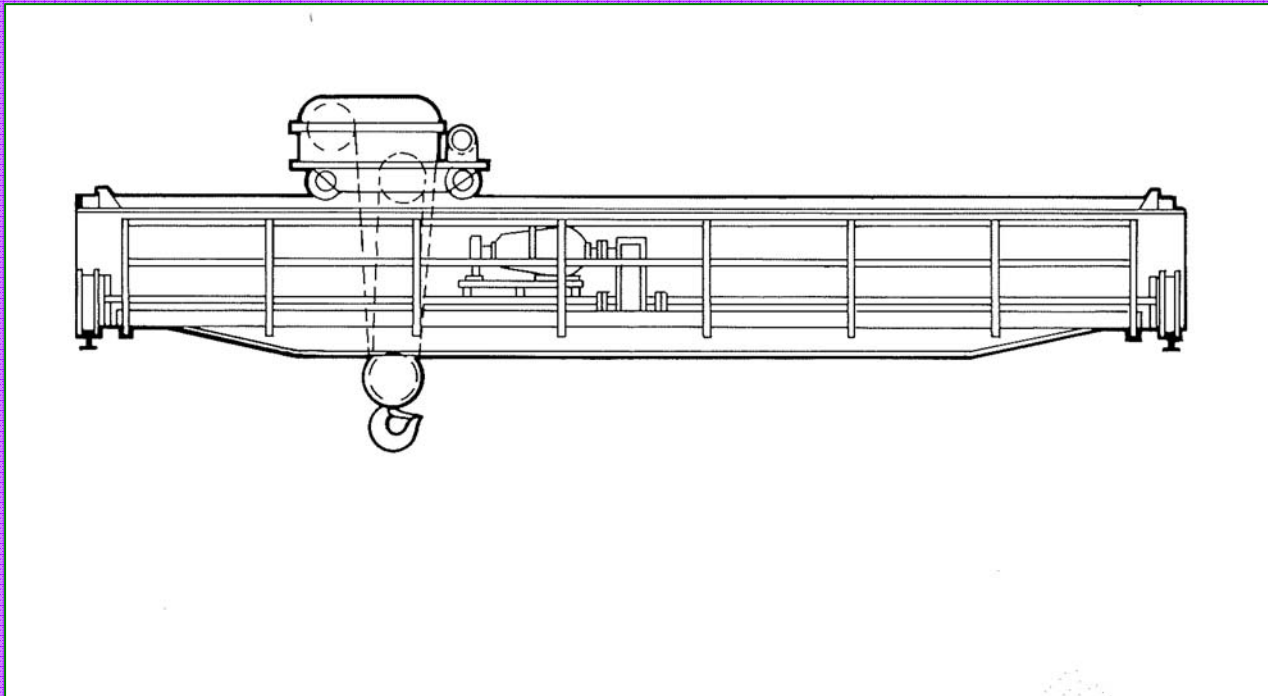


Buyer's Guide for Top Running & Gantry Type
Multiple Girder Electric Overhead Traveling Cranes

Prepared by
The Crane Manufacturers Association of America, Inc

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Released December 2008

Disclaimer for CMAA BUYERS' GUIDE

This Guide, which was developed by the Crane Manufacturers Association of America an independent trade association affiliated with the Material Handling Industry of America (“MHIA”), a division of the Material Handling Industry (“MHI”), provides guidance about the proper selection of a material handling system and covers issues such as the service for which it will be used, the frequency of its use, matching its speed with manufacturing needs, budget and more. It was developed with the sole intent of offering information to parties engaged in selecting and purchasing such a material handling system. This Guide is advisory only and should be regarded as a simple tool that the buyer may or may not choose to follow, adopt, modify, or reject. The following information does not constitute a comprehensive safety program, cannot guard the buyer from pitfalls in selecting and purchasing such a system, and should not be relied upon as such. Such a program should be developed, and an independent adviser should be consulted to do so.

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DISCLAIMER OF WARRANTY. CMAA, the Material Handling Industry, MHIA, and their members make no warranties of any kind, express, implied, or statutory, in connection with the information in this Guide and specifically disclaim all implied warranties of merchantability or of fitness for particular purpose.

INDEMNIFICATION. By referring to or otherwise employing This Guide, the user agrees to defend, protect, indemnify, and hold CMAA, the Material Handling Industry, MHIA, their members, their officers, agents, and employees harmless from and against all claims, losses, expenses, damages, and liabilities, direct, incidental, or consequential, arising from acceptance or use or alleged use of this Guide, including loss of profits and reasonable attorneys' fees which may arise out of the acceptance or use or alleged use of this Guide. The intent of this provision and of the user is to absolve and protect CMAA, the Material Handling Industry, MHIA, their members, their officers, agents, and employees from any and all loss relating in any way to this Guide, including those resulting from the user's own negligence.

CMAA Buyer's Guide

INTRODUCTION

The Crane Manufacturers Association of America, known as CMAA, is an organization of over thirty leading American manufacturers of electric overhead traveling cranes and components.

CMAA has published standardized crane specifications for almost sixty years. Two publications in particular, *CMAA 70 – Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes* and *CMAA 74 – Specifications for Top Running & Under Running Single Girder Electric Traveling Cranes Utilizing Under Running Trolley Hoist*, are recognized throughout the United States as the *de facto* standards of industrial crane design.

CMAA traces its roots to the Electric Overhead Crane Institute, known as EOCI, which was founded in 1927 by leading crane manufacturers of that time to promote standardization of cranes, uniform quality and performance. EOCI published standardized specifications in 1949 and again in 1961.

CMAA Specification 70, first published in 1971, superseded *ECCI 61*. Since 1971, *CMAA Specification 70* has been republished several times with changes and updates managed by CMAA's Engineering Committee. *CMAA Specification 74* was first published in 1974 to provide similar design information on single girder cranes.

CMAA has organized this Buyer's Guide to promote standardization and to assist prospective buyers of electric overhead traveling cranes in selection of equipment most suitable for their applications.

Thank you for your interest in CMAA and its Members.

BUYER'S GUIDE

FOR

TOP RUNNING BRIDGE & GANTRY TYPE MULTIPLE GIRDER ELECTRIC OVERHEAD TRAVELING CRANES

SPECIFICATION #70, REV. 2004

The proper selection of a material handling system involves determining several key items, which include:

1. The “Service” the system will be used for and
2. The “Frequency” of its use and
3. The “Speed” of the system necessary to match process parameters and
4. The Buyers Budget.

Beginning on page 8 is a set of “Crane Inquiry Data Sheets”. This is an excellent starting point to discuss your requirements with the crane manufacturer. Some items require your input, while a discussion with the crane manufacturer would be best for judgment-type questions where his knowledge would help you arrive at an optimal solution.

Page 12 outlines “Crane Service Classifications”, that provides guidelines for selecting the proper crane based on the load spectrum reflecting the actual service conditions as closely as possible.

On page 13 is a chart of “Suggested Operating Speeds” that provides additional guidelines for selecting the proper travel and hoisting speeds.

Slides providing insight into the many different types of overhead material handling equipment built by our member companies is available on our website under CMAA Buyer's Guide. These can be used as references as you select cranes and equipment to solve your material handling needs.

CMAA recommends that the Buyer review the following set of questions with its prospective crane system supplier.

Verify key components with your crane supplier:

1. Is crane designed as per Specifications for Top Running Bridge and Gantry Type Multiple Girder Electric Overhead Traveling Cranes – CMAA Specification #70, Revised 2004?
 Yes No

2. Are design stresses in accordance with CMAA Spec #70 – 1.7?
 Yes No

3. Are Welding (Design, Fabrication, Testing and Welder) Qualifications in accordance with AWS D14.1? (see CMAA Spec #70 - 3.2)
 Yes No

4. Are static/dynamic load factors and load combinations consistent with CMAA requirements? (see CMAA Spec #70 - 3.3)
 Yes No

5. Are calculated stresses within the limitations / guidelines of Section 3.4? (see CMAA Spec #70 - 3.4)
 Yes No

6. Have the allowable stress ranges based on class of service been considered (fatigue)? (see CMAA Spec #70 - 3.4.7)
 Yes No

7. Girder design – Proportional requirements, Factors of Safety on Buckling consistent with CMAA? (see CMAA Spec #70 - 3.4.8 & 3.5.1)
 Yes No



- 8. Is the girder deflection as per the requirements of CMAA, which requires deflection no greater than 1/888? The deflection specified by CMAA is a good compromise between providing an economical design and a rigid structure. For applications requiring precise placement, a stiffer bridge may be desired. (see CMAA Spec #70 - 3.5.5)
 Yes No

- 9. Are foot walks designed for 50 psf live load? (OSHA Spec #70 - 3.7) (see OSHA 1.910.179 (d)(2)(1))
 Yes No

- 10. Bolting – Are structural bolted joints designed in accordance with CMAA requirements? (see CMAA Spec #70 - 3.13.1)
 Yes No

- 11. Hook safety factor min. 5:1 based on ultimate strength of hook material? (see CMAA Spec #70 - 4.2.2.2)
 Yes No

- 12. Wire rope safety factor min. 5:1? (see CMAA Spec #70 - 4.4.1)
6 x 37, 6 x 19, Other (see OSHA 1910.179(h)(2)(1))
 Yes No

NOTE: Rope used for holding or lifting molten metal shall not exceed 12.5% of published breaking strength. (Min. safety factor = eight (8)).

13. Type of wire rope & size

- 14. Hoisting rope fleet angle as per CMAA Specification? Yes No
(see CMAA Spec #70 - 4.4.3)

- 15. Does hoist or hoisting machinery meet or exceed Guide for Minimum Pitch Diameter of Running Sheaves? (see CMAA Spec #70 - 4.5.2)
 Yes No



CMAA Class	6 x 37 Class Rope	6 x 19 Class Rope
A & B	16	20
C	18	24
D	20	24
E	24	30
F	30	30

d = rope diameter

16. The pitch diameter of equalizer sheaves should not be less than one-half of the diameter of running sheaves, and also shall not be less than 12 times the rope diameter when using 6 x 37 class rope or 15 times the rope diameter for 6 x 19 class rope. (see CMAA Spec #70 - 4.5.3)

Yes No

17. Does hoist or hoisting machinery meet or exceed Guide for Minimum Pitch Diameter of Drums? (see CMAA Spec #70 - 4.6.4)

Yes No

CMAA Class	6 x 37 Class Rope	6 x 19 Class Rope
A & B	16	20
C	18	24
D	20	25
E	24	30
F	30	30

d = rope diameter

18. Gearing – Designed to AGMA 2001-C95 as supplemented by CMAA. Are Service Factors consistent with the Class of Service? (see CMAA Spec #70 - 4.7)

Yes No

19. Are bearings provided consistent with the duty cycle selected? (see CMAA Spec #70 - 4.8.2)

Class A	1250 Hours
Class B	2500 Hours
Class C	5000 Hours
Class D	10000 Hours
Class E	20000 Hours
Class F	40000 Hours

Yes No

20. Brakes – Mechanical and thermal ratings consistent with CMAA requirements and class of service? (see CMAA Spec #70 - 4.9.1)

NOTE: OSHA 1910.179 (f)(2)(VI) Each independent hoisting unit of a crane handling hot metal and having power control braking means shall be equipped with at least two (2) holding brakes.

Yes No

21. Is shafting design in accordance with CMAA requirements?
(see CMAA Spec #70 - 4.11)

Yes No

22. Allowable wheel loads in compliance with CMAA requirements?
(see CMAA Table 4.13.3-3)

Yes No

23. Are bumpers sized according to the CMAA requirements?
(see CMAA Spec #70 - 4.14) (OSHA 1910.179 (e)(2)&(3))

Yes No

24. All panel and interconnecting wiring in accordance with NFPA NEC Article 610?
(see CMAA Spec #70 - 5.1.4)

Yes No

25. Are motors designed and constructed in accordance with NEMA MG-1?
(see CMAA Spec #70 - 5.2.1)

Yes No

26. When motors are utilized with PWM variable frequency control, are the motors constructed for use with such? (see CMAA Spec #70 - 5.2.1.3)

Yes No

27. Has the mechanical horsepower requirements been calculated in accordance with CMAA guidelines for the class of service? (see CMAA Spec #70 - 5.2.9)

Yes No

28. Are the controls sized for the class of service? (see CMAA Spec #70 - 5.2.9)

Yes No

29. Are short circuit devices and overload devices in compliance with NFPA NEC Article 610? (see CMAA Spec #70 - 5.6)

Yes No

30. Is a fourth runway electrification ground bar included?
(see CMAA Spec #70 - 5.12.3)

Yes No

31. Are Rail Sweeps provided? (see OSHA 1910.179 (e)(4))

Yes No



SECTION 2.1.1
70-6 CRANE INQUIRY DATA SHEET
FIGURE 6.1

Customer _____

Spec No. _____

Date _____

1. Number Cranes Required _____.

2. Capacity: Main Hoist _____ Tons Aux. Hoist _____ Bridge _____ Tons

3. Required Hook Lift (Max. Including Pits or Wells Below Floor Elevation)

Main Hoist _____ Ft. _____ In. Aux. Hoist _____ Ft. _____ In.

4. Approximate Length of Runway _____ Ft.

5. Number of Cranes on Runway _____.

6. Service Information: C.M.A.A. Class _____ (See Section 70-2)

Main Hoist: Average Lift _____ Ft. Number of Lifts per Hour _____ Speed _____ fpm

Hours per Day _____ Hook _____ Magnet _____ Bucket _____

Give Size & Weight of Magnet or Bucket _____

Aux. Hoist: Average Lift _____ Ft. Number of Lifts per Hour _____ Speed _____ fpm

Hours per Day _____ Hook _____ Magnet _____ Bucket _____

Give Size & Weight of Magnet or Bucket _____

Bridge: Number of Moves per Hour _____ Hours per Day _____ Speed _____ fpm

Average Movement _____

Trolley: Number of Moves per Hour _____ Hours per Day _____ Speed _____ fpm

Average Movement _____



7. Furnish complete information regarding special conditions such as acid fumes, steam, high temperatures, high altitudes, excessive dust or moisture, very sever duty, special or precise load handling:

8. Ambient Temperature in Building: Max. _____ Min. _____

9. Material Handled _____

10. Crane to Operate: Indoors _____ Outdoors _____ Both _____

11. Power: Volts _____ Phase _____ Hertz _____ AC, Volts _____

12. Method of Control: Cab _____ Floor _____ Other _____

13. Location of Control: End of Crane _____ Center _____ On Trolley _____

Other _____

14. Type of Control (Give complete information, including number of speed points) Ref. 5.4.4

Main Hoist _____

Auxiliary Hoist _____

Trolley _____

Bridge _____

15. Type of Control Enclosure: (Ref. 5.4.7.1) _____

16. Type of Motors: (Give complete information) _____

17. Must wiring comply with Special Conditions or Codes _____

Describe briefly (See Items 7 & 8) _____

18. Bridge Conductor Type: _____

19. Runway Conductor Type: Insulated _____ (MFR) _____

Bare Wires _____ Angles _____ Other _____

Furnished By: _____

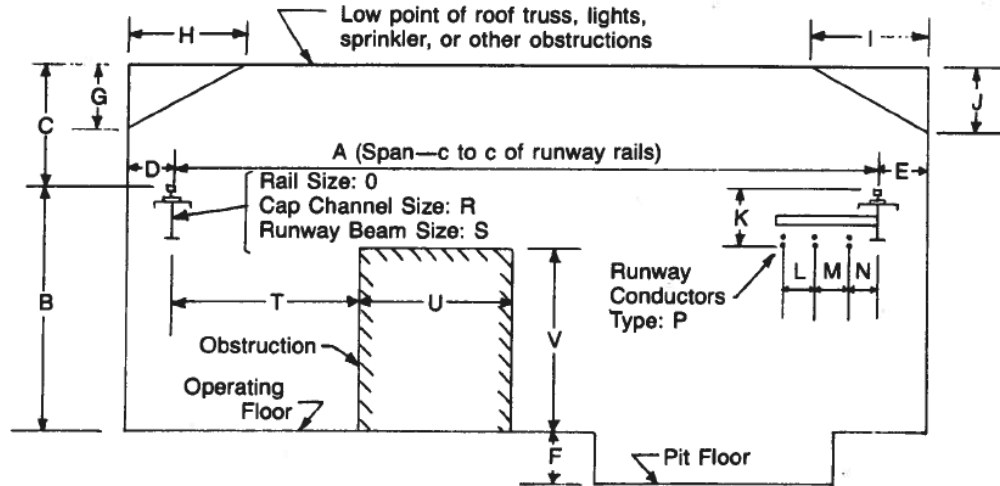


20. List of Special Equipment or Accessories Desired _____

21. For special cranes with multiple hooks or trolley or other unique requirements, provide detailed information on hook spacing, orientation, capacities, and total bridge capacity.

22. Complete attached building clearance drawing, making special note of any obstructions which may interfere with the crane, including special clearance conditions underneath the girders or cab.

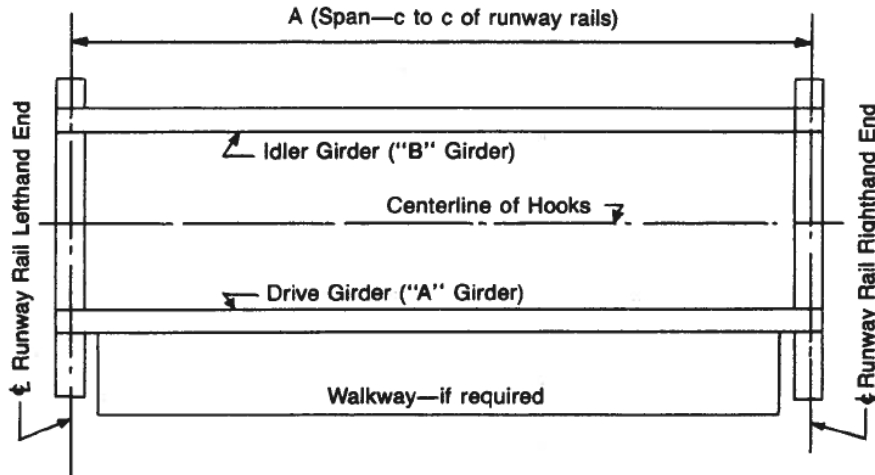
CLEARANCES: Complete the building drawing below making special note of any obstructions which may interfere with the crane including special clearance requirements under girders or cab.



E L E V A T I O N

A _____	H _____	P _____
B _____	I _____	Q _____
C _____	J _____	R _____
D _____	K _____	S _____
E _____	L _____	T _____
F _____	M _____	U _____
G _____	N _____	V _____

Indicate the "North" direction, cab or pendant location, relative locations of main and auxiliary hook, runway conductor location, adjacent cranes, etc.



P L A N

Section 2.1.2

70-2 CRANE CLASSIFICATIONS**CMAA Crane Service Classes**

CMAA has established crane service classes so that the most economical crane for a particular installation may be specified in accordance with *Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes-No. 70* or *Specifications for Top Running and Under Running Single Girder Electric Overhead Cranes Utilizing Under Running Trolley Hoist-No. 74*. The crane service classification is based on the load spectrum reflecting the actual service conditions as closely as possible. The CMAA Crane Service Classes are as follows:

CLASS A (STANDBY OR INFREQUENT SERVICE)

This service class covers cranes which may be used in installations such as power houses, public utilities, turbine rooms, motor rooms and transformer stations where precise handling of equipment at slow speeds with long, idle periods between lifts are required. Capacity loads may be handled for initial installation of equipment and for infrequent maintenance.

CLASS B (LIGHT SERVICE)

This service covers cranes which may be used in repair shops, light assembly operations, service buildings, light warehousing, etc. where service requirements are light and the speed is slow. Loads may vary from no load to occasional full rated loads with two to five lifts per hour, averaging ten feet per lift.

CLASS C (MODERATE SERVICE)

This service covers cranes which may be used in machine shops or paper mill machine rooms, etc., where service requirements are moderate. In this type of service the crane will handle loads which average 50 percent of the rated capacity with 5 to 10 lifts per hour, averaging 15 feet, not over 50 percent of the lift at rated capacity.

CLASS D (HEAVY SERVICE)

This service covers cranes which may be used in heavy machine shops, foundries, fabricating plants, steel warehouses, container yards, lumber mills, etc., and standard duty bucket and magnet operations where heavy duty production is required. In this type of service, loads approaching 50 percent of the rated capacity will be handled constantly during the working period. High speeds are desirable for this type of service with 10 to 20 lifts per hour averaging 15 feet, not over 65 percent of the lifts at rated capacity.

CLASS E (SEVERE SERVICE)

This type of service requires a crane capable of handling loads approaching a rated capacity throughout its life. Applications may include magnet, bucket, magnet/bucket combination cranes for scrap yards, cement mills, lumber mills, fertilizer plants, container handling, etc., with twenty or more lifts per hour at or near the rated capacity.

CLASS F (CONTINUOUS SEVERE SERVICE)

This type of service requires a crane capable of handling loads approaching rated capacity continuously under severe service conditions throughout its life. Applications may include custom designed specialty cranes essential to performing the critical work tasks affecting the total production facility. These cranes must provide the highest reliability with special attention to ease of maintenance features.

This information has been presented for reference purposes only. For more information regarding load spectrum, mean effective load factors, load classes, load cycles and how these relate to the determination of crane service classes, please refer to *Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes-No. 70* or *Specifications for Top Running and Under Running Single Girder Electric Overhead Cranes Utilizing Under Running Trolley Hoist-No. 74*. These documents are available for purchase online at <http://www.mhia.org/bookstore> or through the Literature Department at 704-676-1190.



**Section 2.1.3
SUGGESTED OPERATING SPEEDS
November 30, 2007**

FLOOR CONTROLLED CRANES

Capacity Tons	Hoist			Trolley			Bridge		
	Slow	Medium	Fast	Slow	Medium	Fast	Slow	Medium	Fast
3	20	35	45	50	80	130	60	130	180
5	20	30	40	50	80	130	60	130	180
7.5	15	25	40	50	80	130	60	130	180
10	15	25	35	50	80	130	60	130	180
15	15	20	30	50	80	125	60	130	180
20	10	20	30	50	80	125	60	130	180
25	10	20	25	50	80	125	60	130	160
30	10	15	25	50	80	125	60	130	160
35	8	15	25	50	80	125	60	130	160
40	8	15	25	40	70	100	50	100	160
50	5	11	20	40	60	100	50	100	130
60	5	9	18	40	60	80	40	80	130
75	4	9	15	40	60	80	30	80	130
100	4	8	13	30	60	80	25	50	100
150	3	6	11	25	60	80	25	50	100

RADIO CONTROLLED CRANES

Capacity Tons	Hoist			Trolley			Bridge		
	Slow	Medium	Fast	Slow	Medium	Fast	Slow	Medium	Fast
3	20	35	45	50	80	130	100	150	220
5	20	30	40	50	80	130	100	150	220
7.5	15	25	40	50	80	130	100	150	220
10	15	25	35	50	80	130	100	150	220
15	15	20	30	50	80	125	100	150	220
20	10	20	30	50	80	125	100	150	220
25	10	20	25	50	80	125	75	120	220
30	10	15	25	50	80	125	75	120	180
35	8	15	25	50	80	125	75	120	180
40	8	15	25	40	70	100	50	100	180
50	5	11	20	40	60	100	50	100	180
60	5	9	18	40	60	80	40	80	150
75	4	9	15	40	60	80	30	80	150
100	4	8	13	30	60	80	25	50	125
150	3	6	11	25	60	80	25	50	100

CAB CONTROLLED CRANES

Capacity Tons	Hoist			Trolley			Bridge		
	Slow	Medium	Fast	Slow	Medium	Fast	Slow	Medium	Fast
3	20	35	45	125	150	200	200	300	400
5	20	30	40	125	150	200	200	300	400
7.5	15	25	40	125	150	200	200	300	400
10	15	25	35	125	150	200	200	300	400
15	15	20	30	125	150	200	200	300	400
20	10	20	30	125	150	200	200	300	400
25	10	20	25	100	150	175	200	300	400
30	10	15	25	100	125	175	175	250	350
35	8	15	25	100	125	150	175	250	350
40	8	15	25	100	125	150	175	250	350
50	5	11	20	100	125	150	100	200	300
60	5	9	18	100	125	150	100	200	300
75	4	9	15	75	100	125	75	150	200
100	4	8	13	75	100	125	75	100	150
150	3	6	11	50	75	100	50	100	150

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What is CMAA?

What is CMAA? CMAA is the Crane Manufacturers Association of America, Inc., and independent trade association affiliated with the Material Handling Industry. CMAA traces its roots to the Electric Overhead Crane Institute, known as EOICI, which was founded in 1927 by leading crane manufacturers of that time to promote the standardization of cranes as well as uniform quality and performance. The voluntary association was incorporated as the Crane Manufacturers Association of America, Inc., in 1955. Member Companies, representing the Crane industry, serve the world market from operations based in the United States, Canada, and Mexico.

CMAA Mission

Our Mission is to deliver exceptional value to our end-users, channel partners, members and industry associates while serving the overhead material handling industry. CMAA achieves this through:

- Safety Advocacy
- Engineering Specifications and Standards Development
- Educational Materials
- Member Professional Development
- Recruiting and Developing a representative, active membership

CMAA Vision

As the premier, preferred brand in the materials handling industry, CMAA:

- Is recognized as the leading advocate for the safe application and operation of overhead traveling crane equipment and related products.
- Engineering specifications are widely recognized as the preferred design standard for overhead traveling cranes, integrated crane systems, and crane components.
- Is recognized as the leading authority and the principal resource in the overhead traveling crane industry.
- Conducts business professionally with a spirit of enthusiasm, cooperation, honesty and integrity.
- Positions its Members to achieve marketplace leadership and:
 - Deliver superior value in their products and services.
 - Provide products and services that are safe and productive.
 - Provide high value and versatile solutions
 - Develop knowledgeable and expert channel partners.
 - Provide an environment in which our customers can confidently purchase and derive superior value from our products.



For information regarding membership, standards, specifications, market research initiatives, industry statistics, literature or publications. CMAA Managing Director Hal Vandiver: hvandiver@mhia.org, Executive Assistant Cathy Moose: cmoose@mhia.org

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Call the Material Handling Institute Literature Department at 800-345-1815 or 704-676-1190 or go to www.mhia.org/cmaa , “Publications and Resources”, to order the following CMAA publications:

#10089 – CMAA Specification 70, *Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes*

The purpose of this book is to provide a basis for uniform quality and performance. This specification contains information, which should 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, the items listed may be checked with individual manufacturers and comparisons made which can lead to optimum selection of equipment. 92 Pages, \$85.00 ea. plus shipping

#10090 – CMAA Specification 74, *Specifications for Top Running and Under Running Single Girder Electric Overhead Traveling Cranes Utilizing Under Running Trolley Hoist*

This book promotes standardization and provides a basis for uniform quality and performance. It contains information which should be helpful for purchasers and users of cranes, as well as engineers and architects. Text consists of seven sections: general specifications, crane service classification, structural design, mechanical design, electrical equipment, crane inquiry data sheet and a glossary. 76 Pages, \$85.00 ea. plus shipping

#10197 – CMAA Specification 78, *Standards and Guidelines for Professional Services Performed on Overhead Traveling Cranes and Associated Hoisting Equipment*

Specification 78 has been purposely developed by CMAA to recognize overhead traveling crane service and the service of associated hoisting equipment as an “industry” worthy of having guidelines and standards for providing high-quality, professional services performed by safety minded, manufacturer-trained and certified technicians. With the introduction of Specification 78, CMAA intends to set higher performance standards and raise customer expectations related to service of overhead traveling cranes and associated hoisting equipment. 40 Pages, \$30.00 ea. plus shipping

#10099 – Crane Operator’s Manual

This 29-page manual lists qualifications required to be a crane operator, as well as “shall and shall not’s.” Safety is stressed by describing the best way to operate a crane. It also explains why a crane should be operated safely. The safety suggestions are intended to supplement company safety practices and crane manufacturers’ instructions. \$5.00 ea. plus shipping

10078 - CMAA Crane Service Classes

CMAA has established crane service classes so that the most economical crane for a particular installation may be specified in accordance with Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes - No. 70 or Specifications for Top Running and Under Running Single Girder Electric Overhead Cranes Utilizing Under Running Trolley Hoist - No. 74. FREE DOWNLOAD

#10102 – Overhead Crane Inspection and Maintenance Checklist

This checklist, published by the Crane Manufacturers Association of America, Inc., aids owners of overhead cranes when conducting periodic maintenance inspections. While the proper installation, operation, testing, and maintenance of cranes are a continuing responsibility of the owner/user in accordance with the current approved standards, this checklist provides a minimal list of components to be inspected regularly. \$10.00 per pack of 50 checklists, plus shipping

#10059 – The Fundamentals of Overhead Crane Safety Training Program

This product is a DVD training program designed to visually reflect safe operating practices for a wide variety of cranes to successfully run an in-house overhead safety program. The package includes a 45-minute training video covering, Basic Components, Warning, Hand Signals, Pre-Energization Inspection: Cab Cranes, Pre-Energization – Floor Controlled Cranes, Inspection with Electrical Power Applied, Load Lifting, Transferring, and Depositing, Magnet and Bucket Attachments, Parking and Securing Cranes and Summary. CMAA literature is also included, CMAA Spec 70, Spec 74,, Spec 78, Crane Operators Manual and more. \$395.00 ea. plus shipping

#10098 – Operational Guide for Lifting Devices

The Operational Guide for Lifting Devices are guidelines intended to provide you with general procedures for installation, inspection, maintenance and repairs, and operation and operator training for below-the-hook lifting devices. Lifting devices, sometimes called below-the-hook lifters, attach hoists to their loads. FREE DOWNLOAD

#10210 – Multiple Girder Buyer's Guide, For Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes

CMAA has organized this Buyer's Guide to promote standardization and to assist prospective buyers of electric overhead traveling cranes in selection of equipment most suitable for their application. FREE DOWNLOAD.

#10211 – Single Girder Buyer's Guide, For Top Running and Under Running Single Girder Electric Overhead Traveling Cranes Utilizing Under Running Trolley Hoist

CMAA has organized this Buyer's Guide to promote standardization and to assist prospective buyers of electric overhead traveling cranes in selection of equipment most suitable for their applications. FREE DOWNLOAD

#10212 – Below The Hook Devices Buyers Guide

CMAA has organized this Buyer's Guide to promote standardization and to assist prospective buyers of below-the-hook lifting devices in selection of equipment most suitable for their application. FREE DOWNLOAD

#10198 – Overhead Material Handling Market History and Forecast

This 59-page presentation has been developed for professional researchers interested in learning more about the statistical characteristics of the overhead material handling market for planning purposes. Information is presented in chart form to reveal information about market size and growth, product mix, domestic production, imports, exports, consumption, capacity utilization, economic indicators, market potential and a variety of other insights. Source data has been gathered principally from the U.S. Department of Commerce (USDOC), the U.S. International Trade Commission (USITC), the U.S. Bureau of Economic Analysis (BEA) and the U.S. Federal Reserve Board (FRB). Insights are provided by MHIA Staff and the Managing Director of CMAA, HMI and MMA, independent trade associations affiliated with the Material Handling Industry of America. (NOTE: This document will be emailed to you after you complete your order. This could take up to 24 hours – please do not order if you need it immediately). \$750.00

#10036 – Selecting the Right Overhead Crane

This publication concentrates on the owner's responsibility to select a qualified crane supplier by highlighting a number of factors as they pertain to application and facility. FREE DOWNLOAD

#10091 – CMAA Consensus of the national Electrical Code

The 1996 National Electrical Code has a number of paragraphs affecting cranes. Some of these paragraphs are subject to verifying interpretations. The information published represents the consensus of interpretation by members of the Crane Manufacturers Association of America, Inc. and is shown in block form with 1996 N.E.C. references, followed by explanatory notes. FREE DOWNLOAD

#10034 – What is CMAA?

This brochure provides a general overview of the Crane Manufacturer's Association, Inc., its membership, literature and publications. FREE DOWNLOAD.

#10085 – MH27.1, *Specification for Patented Track Underhung Cranes & Monorail Systems*

Approved and published in 2009, this publication was developed by the Monorail Manufacturers Association, Inc. to assist manufacturers and users of underhung cranes and monorail systems. This specification was originally approved as an MMA consensus standard in 1973, was subjected to the ANSI Canvass Review Process, and is now available as an American National Standard. Includes discussion of curves, switches, transfer devices, trolleys, lift and drop sections and associated equipment.

#10087 – MH27.2, *Specification for Enclosed Track Underhung Cranes & Monorail Systems*

Approved and published in 2009, this publication was developed by the Monorail Manufacturers, Inc. in the interest of improved uniformity of underhung crane and monorail performance and enhanced public safety. This standard, that 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.