

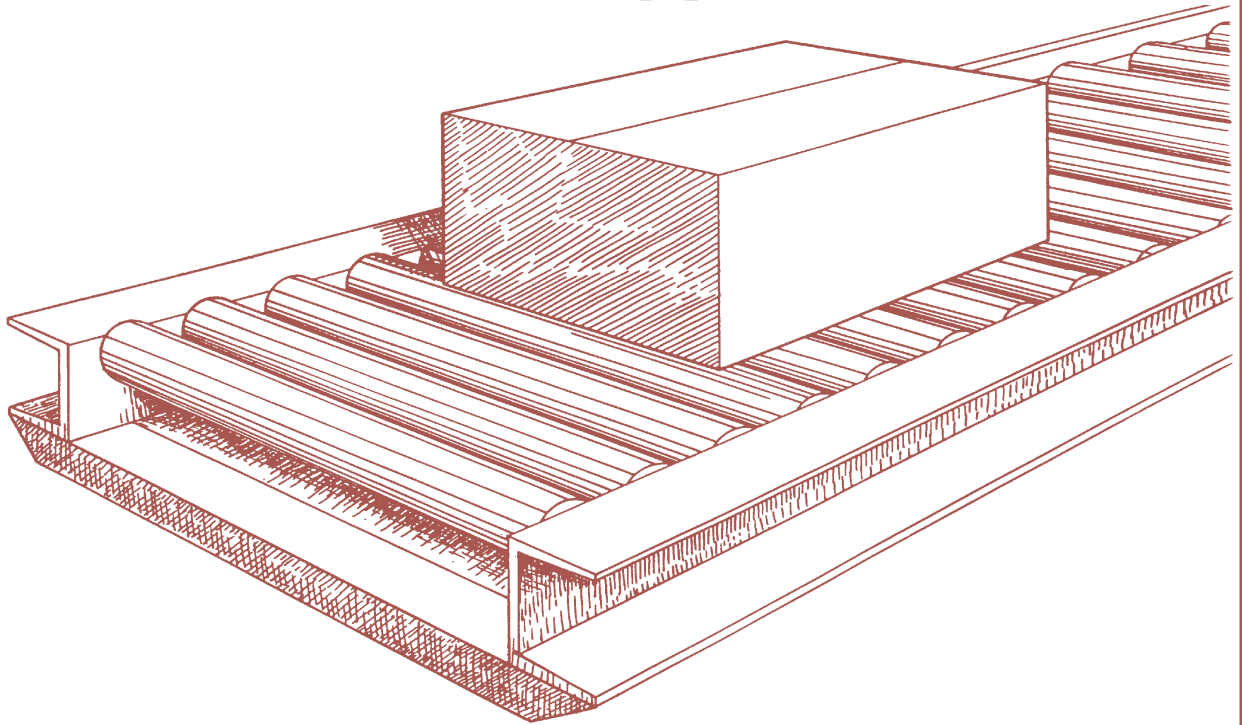
# CEMA STANDARD NO. 401- 2003



ANSI / CEMA 401-2003(R2009)  
Reaffirmation of ANSI/CEMA 401-2003  
( Approved January 22, 2009)

## ROLLER CONVEYORS - NON POWERED

PREVIEW COPY



Unit Handling Conveyors



Conveyor Equipment  
Manufacturers Association

ISBN 978-1-891171-23-9

## FOREWORD

During the past century roller conveyors have developed from the original wooden rollers, with steel pins on the ends rotating in a frame, to the present day all metal construction with anti-friction bearings.

The first attempt to establish a standard method of evaluating the merits of the various sizes and designs being offered in the marketplace was the 1962 edition of CEMA Standard 401.

The purpose of this work is to establish certain minimum standards of comparison for use by concerns which specify, manufacture, and use non-powered roller conveyors.

For additional information relating to definitions and selection of common components, see the latest edition of the following publications: CEMA Standard No. 102, *Conveyor Terms and Definitions*; CEMA Standard No. 402, *Belt Conveyors*; CEMA Standard No. 403, *Belt Driven Live Roller Conveyors*; CEMA Standard No. 404, *Chain Driven Live Roller Conveyors*; CEMA Standard No. 405, *Slat Conveyors*; and CEMA Standard No. 406, *Lineshaft Driven Live Roller Conveyors*.

The illustrations throughout this book are schematic in nature and represent the general nature of a particular device. The illustrations are not intended to represent the recommended safety configurations since guarding has been omitted to permit clarity in showing the operational characteristics of the device. Refer to the current editions of ANSI/ASME B20.1, *Safety Standard for Conveyors and Related Equipment*; ANSI/ASME B15.1, *Safety Standard for Mechanical Power Transmission Apparatus*; and ANSI Z244.1, *American National Safety Standards for Lockout/Tagout of Energy Sources - Minimum Safety Requirements*; Title 29, Code of Federal Regulations (29 C.F.R.) Part 1910.147, *The Control of Hazardous Energy (lockout/tagout)*; Title 29, Code of Federal Regulations (29 C.F.R.) Part 1910 Subpart O, *Machinery and Machine Guarding*. Consult ASME or ANSI for the latest editions.

## TABLE OF CONTENTS

	<i>Section</i>	<i>Page</i>	<i>PDF</i>
DEFINITIONS	1	1	5
APPLICATION DATA	2	3	7
BEARINGS FOR CONVEYOR ROLLERS	3	7	11
TECHNICAL DATA	4	15	19

### CONVEYOR EQUIPMENT MANUFACTURERS ASSOCIATION

6724 Lone Oak Blvd  
Naples, Florida 34109  
Web Site: <http://www.cemanet.org>

Standard No. 401 (PDF) - Copyright 2009  
Printed in the U.S.A.

ISBN 978-1-891171-23-9

**Note - CEMA Has Reaffirmed the 2003 Edition.  
This 2009 Edition is Identical to the 2003 Edition**

**SUMMARY OF CHANGES IN 2003 EDITION**

- All drawings have been cleaned up and enhanced for clarity where necessary.
- Foreword has been updated to include new Safety References.
- A Safety Notice regarding Industry Standard Safety Labels has been added.
- Terms and Definitions have been edited to conform with those in ANSI/CEMA 102 “Conveyor Terms and Definitions”.
- All Figures and charts have been redrawn and, in some cases, modified for clarity

**CEMA Standard No. 401-2003 (R2009)  
Reviewed by  
Unit Handling Section  
of the  
CEMA Engineering Conference**