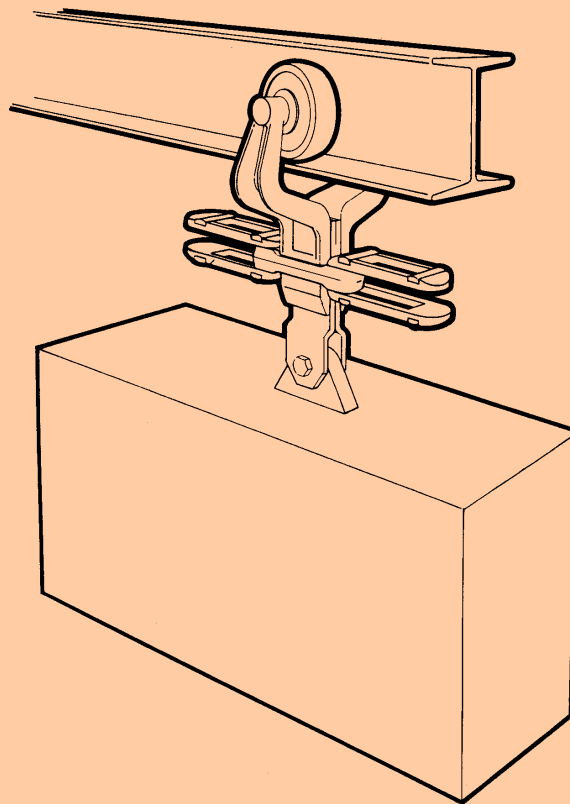


# **CEMA STANDARD NO. 601-1995**

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PDF Version - 2003**

## **OVERHEAD TROLLEY CHAIN CONVEYORS**



### **Unit Handling Conveyors**



**Conveyor Equipment  
Manufacturers Association**

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**CONVEYOR EQUIPMENT MANUFACTURERS ASSOCIATION  
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## Overhead Trolley Chain Conveyors

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### CONVEYOR EQUIPMENT MANUFACTURERS ASSOCIATION

5672 Strand Court, Suite 2

Naples, Florida 34110

Tel: 239-514-3441

Fax: 239-514-3470

<http://www.cemanet.org>

## SECTION I

### INTRODUCTION

The overhead trolley chain conveyor is an extremely flexible material handling means. It is used in practically every industry worldwide. It can be installed to follow almost any path, changing direction vertically or horizontally. Using multiple drives, a single path can be miles (kilometers) in length.

Beyond material transportation in ambient indoor or outdoor environments, typical industrial applications of trolley chain conveyors for product processing include:

Washing/cleaning/finishing

Phosphatizing or similar treatments

Solvent degreasing

Paint stripping

Baking/drying up to 525° F (270° C)

Prime and finish painting

Freezing

Cooling

Food Handling

In certain environments, humans cannot survive or human health is endangered, yet conveying means are essential. Under many conditions, other types of conveyors are not practical or would not have acceptable life expectancy. The overhead trolley chain conveyor combines its directional flexibility (horizontal and vertical curve movement) with its tolerance to adverse environments to broaden its applications to user requirements.

Each product carrier is especially designed to suit secure handling while providing ease in loading and unloading, whether this is done manually, semi-automatically, or automatically. Further design considerations are required where the product is processed and not merely transported.

With adequate part (or carrier) clearance within recommended allowable loading, any type of product may be transported. Carriers may be in the form of hooks, slings, boxes, racks, trays, baskets, or one of other numerous configurations to suit the application requirement.

The preferred conveyor system uses standard components wherever possible in the principal interest of economics (minimum cost). Countless specially designed components are available and are used where required. In this event, it is recommended that the manufacturer be consulted.

This standard provides basic engineering guidelines to enable the proper selection of standard components and develop these into a functional conveyor layout. Content is confined to single drive systems of average loading, path configuration, and length.

## SECTION II

### DEFINITIONS FOR TROLLEY CHAIN CONVEYORS

**Adjustable Speed Drive** - A type of drive designed with a speed changing device by which the speed of the conveyor can be changed.

**Air-operated Take-up** - See Take-up.

**Antibackup** - See Backstop.

**Antirunaway** - A safety device to stop a declining conveyor and thus prevent running away in event of an electrical or mechanical failure.

**Automatic lubricator** - A device used to lubricate the chain, trolley wheels, or other conveyor components automatically as they pass.

**Automatic Take-up** - See Take-up.

**Backstop** - A mechanical device to prevent reversal of a loaded conveyor under action of gravity when forward travel is interrupted.

**Backup Bar** - A metal bar used to back up the caterpillar chain of a drive to hold the drive chain dogs in proper contact with the conveyor chain.

**Backup Rollers** - Series of rollers so mounted as to back up the conveyor chain to hold it in proper relation to the caterpillar chain dogs.

**Balanced Drives** - Drives so designed that two or more such drives on a single conveyor may be synchronized to pull predetermined shares of the load.

**Beam Clamp** - A device for gripping the flange of supporting beams or trusses for the purpose of suspending from same a structure such as a conveyor frame or track.

**Bolt Attachment** - See Trolley Attachments.

**Bracing** - Diagonal or horizontal members used to prevent swaying in conveyor supporting structure.

**Caterpillar Chain** - A short endless chain on which dogs or teeth are spaced to mesh with and move, or be moved by, a conveyor chain.

**Caterpillar Chain Dog** - A dog or tooth attached to a caterpillar drive chain to provide the driving contact with the conveyor chain.

**Caterpillar Drive** - See Drive.

**Caterpillar Take-up Sprocket** - The non-driving sprocket of a caterpillar drive.

**Center Link** - The loop-shaped link of rivetiess chain which provides the bearing surfaces for the pins and permits passage of the trolley load support members through the chain.

**Chain Pin** - The pin that is used to connect succeeding links of a chain about which the links pivot.