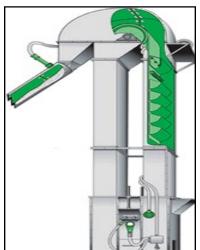


CEMA No. 375-2017 First Edition: March 2017



Conveyor Equipment Manufacturers Association



## CEMA Bucket Elevator Book

Best Practices in Design
First Edition



ISBN # 978-1891171-81-9

## TABLE OF CONTENTS

Chapter		Page
1	<u>General Description</u> - General descriptions of bucket elevators, components, boots, casing, heads, buckets and frequently asked questions.	1
2	Bulk Material Characteristics For Bucket Elevators- Bulk material characteristics, material tables, material classification code chart, sample analysis, size system table and flowability/abrasiveness coding systems.	11
3	<u>Bucket Elevator Selection</u> - Selecting types, centrigugal discharge, continuous bucket elevators, and selection chart.	25
4	<u>Horsepower and Calculations</u> - Determining horsepower, formulas, head shaft design, shaft loading, and determining boot shaft diameter.	37
5	<u>Casing</u> - Introduction, casing types, casing sections, typical boot assembly, considerations for take-up travel, forumulas, belt modulus of elasticity summarized, methods of loading, unloading, filling buckets, principal criteria of bucket unloading, casing styles, graphics on single & double service stations, boot sections and calculating casing strength and thickness.	49
6	<u>Buckets</u> - Bucket elevator design, spacing, speed, CC bucket speed table, industrial bucket speed tables, bucket styles AA-MF-AC-ACS-SC buckets.	87
7	<u>Belts</u> - Introduction, fabric carcass belts, rating tables, construction of belts, ref. tables, steel core belts common ratings table & classes table, and belt splicing.	97
8	<u>Pulleys</u> - Size selection, types, speeds, tables, bucket elevator and wing pulley application.	121
9	<u>Chains</u> - Chain selection, types, attachments, general rules of thumb, chain/design pull calculations, example equations, service factor tables, and speed tables.	129
10	<u>Bucket Elevator Sprockets</u> - Sprocket styles and best practices.	139
11	<u>Safety</u> - General safety precautions, dust hazard, sensors/controls-predictive & preventive maintenance.	145
Nomenclature		162