

Components For Elevator & Conveyor (PLATELINK)





PIN

LOCK NUT

INNER LINK

Constromech PLATE LINK CHAIN

Constromech Plate Link Chains Are Made from Fine – Grained, Alloyed Steel. By Ensuring Optimum Heat Treatment Constromech Maintain High Quality Standards.

The Chains Are Manufactured with Very Close Production Tolerance to Ensure a Smooth, Parallel Run Over the Sprockets. All Plate Steel Chains and Components Are Matched Regarding to Strength and Uniform Hardness, To Minimize the Wear and Provide the Greatest Possible Wear Life and Maximum Chain Life, To Guarantee a Long-Lasting Chain System.

Constromech Plate Link Chain Means:

- <u>High Breaking Load</u>
- Excellent Heat Treatment
- Maintained/uniform Hardness
- Perfect Dimension

ROLLER



ΠΕΟΟ

OUTER LINK WITH ATTACHMENT

<u>PIN: -</u> The most important role of the pin is connecting the inner link to the outer link. Along with the plate, it receives chain tension along the direction of travel while receiving vertical reactive forces from the conveyed items. The outer diameter of the pin suffers wear from sliding against the bushing inner diameter when the chain articulates. The pin is an essential strength bearing part and requires high wear resistance.

BUSH: - The bushing is a strength-bearing part, receiving tension from the chain during sprocket engagement, but its major role is as a bearing part. The outer diameter of the bushing suffers wear from sliding against the roller inner diameter during roller rotation, while the bushing inner diameter suffers wear from sliding against the outer diameter of the pin when the chain articulates. Bushing inner diameter wear is directly expressible as pitch elongation.

<u>ROLLER: -</u> Forms a slip fit with the bushing. Rotates when engaging with the sprocket, while alleviating the shock and wear from the teeth. Rotation also lowers running resistance.

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INNER LINK/OUTER LINK: - The plate mainly receives the tensile load along the chain's direction of travel while receiving vertical reactive forces while supporting the conveyed item. The outer plate and inner plate slide against each other during chain articulation, as well as against the sides of the sprocket teeth during sprocket engagement. Plate holes are either round or flat.

ATTACHMENTS: - For attaching items to the chain.

<u>C-WASHER/T-PIN/LOCK NUT:</u> After the outer plate is press-fitted to the pin, a T-pin/WASHER/LOCK NUT is inserted and bent to prevent the pin from falling out.







BUCKET ELEVATOR CHAIN

We Manufacture Surface Hardened Chains for Bucket elevators used in Cement Plant / Power Plants /Steel / Fertilizer Plants for all types of material handling.



Due to Constant abrasion of these chain links against each other as well as due to the abrasive material which is being handled in the ash removal system, Surface Treated Chains essential, to give a reasonable service life and to work without frequent replacement.

To meet these requirements, we have complete Facilities of Heat Treatment, best technical teams for mechanical and metallurgical testing to ensure this outcome.

CHAIN's CMECH chains for central chain and twin strand bucket elevators, with or without separate bucket attachments are manufactured within wide range dimensions and assemblies.

Bucket elevator chains are subjected to high dynamic loads and CMECH emphasis is to achieve high fatigue resistance whilst maintaining excellent wear resistance and thus optimum service life.

Therefore, bolts and bushes are given a deep case hardening depth. Link plates are manufactured of high tensile alloy steels with a fine-grained structure. Considerable attention is given to surface quality of bores, accurate tolerance and assembly.

Such bucket elevator chains can therefore be classified as high precision special chains which can resist tough operating conditions with fluctuating load conditions throughout their service life.

This is of course completed by a range of toothed and toothless chain wheels with replaceable segmented rims.



FIG: SPROCKET HUB MACHINING.

CMECH have for many years manufactured chains and chain sprockets to different dimensions and arrangements. The many variations virtually make every chain or chain wheel unique.

5 CONSTROMECH ENGINEERING SOLUTION



HIGH TENSILE CHAIN FOR CENTRAL CHAIN BUCKET ELEVATORS

| MATERIAL: | SPECIAL FINE GRAINED HIGH STRENGTH STEEL (ALLOY STEEL) |
|-------------------------|--|
| PROCESS OF MANUFACTURE: | MACHINING, GRINDING & PRESS FIT ASSEMBLY |

HEAT TREATMENT:

GAS CARBURISING, DOUBLE QUENCHED WITH CORE REFINE AND TEMPER













CMECH-2

CMECH-8

CMECH-8M2

CMECH-10

| MODEL | ATTACHMENT (EXAMPLE) | PITCH (P) | WIDTH (W) | HEIGHT (h) | THICKNESS (t) | ØPIN (d1) | ØBUSH (d2) |
|-----------|-------------------------|--------------|--------------|---------------|------------------|--------------|---------------|
| CES-8-5-6 | CMECH-2/4/8 | 152.4 | 76.2 | 63.5 | 13 | 25.4 | 44.5 |
| CES-9-5-6 | CMECH-2/4/8 | 152.4 | 76.2 | 76 | 13 | 25.4 | 44.5 |
| CES-8-5-7 | CMECH-2/4/8 | 152.4 | 76.2 | 84 | 13 | 25.4 | 44.5 |
| CES-9-5-8 | CMECH-2/4/8 | 152.4 | 76.2 | 84 | 14 | 28.6 | 50.8 |
| CES-8-5-9 | CMECH-2/4/8 | 152.4 | 95 | 102 | 16 | 31.8 | 60.5 |
| CES-8-6-4 | CMECH-8M2/10 | 177.8 | 95 | 102 | 16 | 31.8 | 60.5 |
| CES-9-8-4 | CMECH-8M2/10 | 177.8 | 95 | 102 | 16 | 34.9 | 63.5 |



FABRICATED BUCKET





FABRICATED CENTRAL CHAIN TYPE-2

BOOT BEARING

HIGH TENSILE CHAIN FOR DOUBLE STRAND CHAIN BUCKET ELEVATORS





| MODEL | PITCH (P) | WIDTH (W) | HEIGHT (h) | THICKNESS (t) | ØROLLER (d1) | Α | В | С |
|-------------|--------------|--------------|---------------|------------------|-----------------|-----|-----|----|
| CES-300-10 | 75 | 30.6 | 40 | 6 | 29 | 80 | 75 | 14 |
| CES-300-10S | 150 | 30.6 | 40 | 6 | 29 | 80 | 75 | 14 |
| CES-300-12 | 76.2 | 37 | 45 | 8 | 35 | 80 | 75 | 14 |
| CES-450-12 | 100 | 37 | 45 | 8 | 35 | 100 | 100 | 16 |
| CES-450-12S | 200 | 37 | 45 | 8 | 35 | 100 | 100 | 16 |
| CES-300-17 | 76.2 | 36 | 50 | 8 | 27.5 | 80 | 75 | 14 |
| CES-300-17L | 125 | 51 | 50 | 10 | 40 | 110 | 125 | 18 |
| CES-450-17 | 100 | 51 | 50 | 10 | 40 | 100 | 100 | 16 |
| CES-450-17S | 200 | 51 | 50 | 10 | 40 | 100 | 100 | 16 |
| CES-450-26 | 100 | 57 | 65 | 10 | 50.8 | 100 | 100 | 16 |
| CES-600-26 | 125 | 56 | 65 | 10 | 50.8 | 110 | 125 | 18 |
| CES-600-36 | 125 | 66.2 | 76 | 13 | 57 | 110 | 125 | 18 |
| CES-600-36L | 125 | 77 | 90 | 13 | 60 | 130 | 125 | 18 |
| CES-800-36 | 150 | 66.2 | 76 | 13 | 57 | 140 | 150 | 22 |
| CES-800-60 | 150 | 76.5 | 90 | 13 | 70 | 140 | 150 | 22 |
| CES-011-90 | 175 | 87.5 | 110 | 16 | 60.1 | 150 | 175 | 26 |



FABRICATED BUCKET SIDE WALL MOUNT



DRIVE SHAFT FOR DOUBLE STRAND



7 CONSTROMECH ENGINEERING SOLUTION



FORGED TYPE HEAVY BUCKET ELEVATOR CHAIN WITH MIN BREAKING LOAD 180TON



FORGED+FABRICATED TYPE HEAVY BUCKET ELEVATOR CHAIN WITH MIN BREAKING LOAD 180TON



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FORGED TYPE HEAVY BUCKET ELEVATOR CHAIN WITH MIN BREAKING LOAD 170TON



PAN CONVEYOR'S CHAIN:

<u>We Manufacture Surface Hardened Chains for PAN CONVEYORS used in Cement Plant / Power Plants /Steel /</u> <u>Fertilizer Plants for all types of material handling.</u>



Due to Constant abrasion of these chain links against each other as well as due to the abrasive material which is being handled in the ash removal system, Surface Treated Chains essential, to give a reasonable service life and to work without frequent replacement.

To meet these requirements, we have complete Facilities of Heat Treatment, best technical teams for mechanical and metallurgical testing to ensure this outcome



HIGH TENSILE CHAIN FOR PAN CONVEYOR'S WITH ROLLERS









| MODEL | PITCH (P) | WIDTH (W) | HEIGHT (h1) | HEIGHT (h2) | THICKNESS (t) | ØBUSH (d) | Α | В | С |
|-----------|--------------|--------------|----------------|----------------|------------------|--------------|------|-------|----|
| PC-5570 | 250 | 55 | 70 | 85 | 12 | 44 | 71 | 85.5 | 14 |
| PC-4665 | 250 | 46 | 65 | 75 | 10 | 40 | 60.5 | 70 | 14 |
| PC-3045 | 250 | 30 | 45 | 55 | 8 | 32 | 60.5 | 70.5 | 14 |
| PC-6085 | 250 | 60 | 85 | 100 | 12 | 52 | 70.5 | 85.5 | 14 |
| PC-4565 | 250 | 45 | 65 | 75 | 10 | 40 | 59.5 | 140 | 14 |
| PC-6090 | 250 | 60 | 90 | 100 | 10 | 60 | 70 | 85.75 | 14 |
| PC-4570 | 250 | 45 | 70 | 70 | 10 | 40 | 60 | 70.5 | 14 |
| PC-6090-D | 250 | 60 | 90 | 90 | 12 | 44 | 70 | 85 | 14 |







STACKER RECLAIMMER CHAIN: We Manufacture Surface Hardened Chains for RECLAIMMER used in Cement Plant / Power Plants /Steel / Fertilizer Plants for all types of material handling.

There is no. of types of reclaimers for which we are designing chains + sprocket and scrapper blade as well.



For Different sizes of Reclaimer chain necessary dimensions are required to manufacture the chain. Below here 5 types of chains with required dimensions.



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FLOW CONVEYOR CHAIN: We Manufacture Surface Hardened Chains for Flow Conveyor used in Cement Plant / Power Plants /Steel / Fertilizer Plants for all types of material handling.











TYPE - 7

Features and Benefits:

- High durability and wear resistance
- Smooth operation and reduced friction
- Corrosion resistance (for stainless steel chains)
- Compatibility with various conveyor systems
- Customization options for specific applications



TYPE - 1





TYPE - 5





A



TYPE-4

TYPE-1



<u>I</u>kg

DRAG CHAIN: We Manufacture Surface Hardened Chains for DRAG Conveyor used in Cement Plant / Power Plants /Steel / Fertilizer Plants for all types of material handling.







SINGLE STRAND CHAIN

STANDARD PITCH'S WE ARE MANUFACTURING: -





Features and Benefits

High durability and wear resistance

- Smooth operation and reduced friction
- Corrosion resistance (for stainless steel chains)
- Compatibility with various conveyor systems
- Customization options for specific applications



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