ENGINEERING PRODUCTS - CEMENT INDUSTRIES

CHAINS:

1. Drag Chains:
- Application: Used in conveyors to transport bulk materials like limestone, clay, shale, etc., from the quarry to the crusher.
- Chain Pitch: Typically ranges from 4 inches to 8 inches depending on the conveyor size and load.

2. Bucket Elevator Chains:
- Application: Used in bucket elevators to lift and convey bulk materials vertically within the cement plant.
- Chain Pitch: Pitch can vary based on the size and capacity of the elevator, typically ranging from 6 inches to 12 inches.

3. Pan Conveyor Chains:
- Application: Utilized in pan conveyors for horizontal and slightly inclined transport of bulk materials like clinker, limestone, gypsum, etc.
- Chain Pitch: Typically ranges from 4 inches to 8 inches depending on conveyor size and capacity.

4. Apron Feeder Chains:
- Application: Used in apron feeders to convey heavy, abrasive materials such as clinker, limestone, etc., from storage to processing units.
- Chain Pitch: Generally larger, ranging from 8 inches to 12 inches to withstand heavy loads and abrasive materials.

5. Crusher Chains:
- Application: Employed in crushers to facilitate the crushing of raw materials such as limestone, clay, etc., into smaller pieces.
- Chain Pitch: Typically varies based on the crusher size and capacity, ranging from 4 inches to 8 inches.

6. Cooler Grate Chains:
- Application: Used in cooler grates to transport hot clinker from the kiln to the cooler for cooling.
- Chain Pitch: Pitch may vary based on cooler size and design, typically ranging from 8 inches to 12 inches.

7. Kiln Chains:
- Application: Utilized in rotary kilns to convey and support the clinker as it undergoes high-temperature processing.
- Chain Pitch: Pitch depends on kiln size and design, generally ranging from 10 inches to 16 inches.

8. Clinker Drag Chains:
- Application: Used in clinker conveyors to transport clinker from the kiln to storage or further processing units.
- Chain Pitch: Pitch varies based on conveyor size and capacity, typically ranging from 6 inches to 10 inches.

9. **Silo Discharge Chains:**
- Application: Employed in silo discharge systems to extract and transport bulk materials from storage silos to downstream processes.
- Chain Pitch: Pitch varies based on silo size and discharge requirements, typically ranging from 6 inches to 10 inches.

10. **Packer Chains:**
- Application: Used in packing machines to transport and fill cement bags with the final product.
- Chain Pitch: Pitch depends on the packing machine design and capacity, typically ranging from 4 inches to 8 inches.

11. **Reclaimer Chains:**
- Application: Utilized in cement storage and reclaiming systems to extract bulk materials from stockpiles for further processing.
- Chain Pitch: Pitch varies based on reclaimer size and capacity, typically ranging from 8 inches to 12 inches.

12. **Ship Unloader Chains:**
- Application: Used in ship unloading systems to transfer bulk materials from ships to storage facilities at cement plants.
- Chain Pitch: Pitch depends on the size and capacity of the ship unloader, typically ranging from 8 inches to 12 inches.

13. **Gypsum Conveyor Chains:**
- Application: Used to transport gypsum from storage to processing units in cement plants.
- Chain Pitch: Pitch can vary based on conveyor size and capacity, typically ranging from 4 inches to 8 inches.

14. **Ash Conveyor Chains:**
- Application: Utilized in ash handling systems to transport ash from combustion processes to storage or disposal facilities.
- Chain Pitch: Pitch varies based on conveyor size and capacity, typically ranging from 6 inches to 10 inches.

15. **Dust Collector Chains:**
- Application: Used in dust collection systems to convey collected dust and particulates for disposal or recycling.
- Chain Pitch: Pitch can vary based on the size and capacity of the dust collector system, typically ranging from 4 inches to 8 inches.

SPROCKETS:

1. Conveyor Drive Sprockets:
- Application: Used in conveyor systems to drive drag chains, pan conveyors, and other material handling chains.
- Number of Teeth: Typically ranges from 15 to 50 teeth or more.

2. Bucket Elevator Sprockets:
- Application: Employed in bucket elevator systems to drive elevator chains for vertical material transport.
- Number of Teeth: Typically ranges from 12 to 40 teeth or more.

3. Apron Feeder Sprockets:
- Application: Used in apron feeder systems to drive feeder chains for transporting heavy, abrasive materials.
- Number of Teeth: Typically ranges from 15 to 40 teeth or more.

4. Crusher Sprockets:
- Application: Utilized in crusher systems to drive crusher chains for crushing raw materials.
- Number of Teeth: Typically ranges from 12 to 40 teeth or more.

5. Cooler Grate Sprockets:
- Application: Employed in cooler grate systems to drive cooler grate chains for transporting hot clinker.
- Number of Teeth: Typically ranges from 12 to 40 teeth or more.

6. Kiln Sprockets:
- Application: Used in rotary kiln systems to drive kiln chains for conveying and supporting clinker.
- Number of Teeth: Typically ranges from 20 to 60 teeth or more.

7. Clinker Drag Sprockets:
- Application: Employed in clinker conveyor systems to drive clinker drag chains for transporting clinker.
- Number of Teeth: Typically ranges from 15 to 50 teeth or more.

8. Silo Discharge Sprockets:
- Application: Used in silo discharge systems to drive discharge chains for extracting bulk materials from storage silos.
- Number of Teeth: Typically ranges from 12 to 40 teeth or more.

9. Packer Sprockets:
- Application: Employed in packing machine systems to drive packer chains for filling cement bags.
- Number of Teeth: Typically ranges from 12 to 30 teeth or more.

10. Reclaimer Sprockets:
- Application: Used in cement storage and reclaiming systems to drive reclaimer chains for extracting materials from stockpiles.
- Number of Teeth: Typically ranges from 20 to 60 teeth or more.

11. Ship Unloader Sprockets:
- Application: Utilized in ship unloader systems to drive chains for unloading bulk materials from ships.
- Number of Teeth: Typically ranges from 15 to 40 teeth or more.

12. Gypsum Conveyor Sprockets:
- Application: Used in gypsum conveyor systems for driving chains to transport gypsum.
- Number of Teeth: Typically ranges from 12 to 40 teeth or more.

13. Ash Conveyor Sprockets:
- Application: Employed in ash handling systems to drive conveyor chains for transporting ash.
- Number of Teeth: Typically ranges from 15 to 50 teeth or more.

14. Dust Collector Sprockets:
- Application: Used in dust collection systems to drive chains for conveying collected dust.
- Number of Teeth: Typically ranges from 12 to 30 teeth or more.

Pg No: **4**

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PULLEYS:

1. **Drive Pulleys:**
- Application: Transmit power from the motor to the conveyor belt or chain, initiating and maintaining motion in conveyor systems.
- In-Depth Application: Crucial for the efficient transport of materials within the cement plant, driving various conveyor belts and chains in different processing stages.

2. **Tail Pulleys:**
- Application: Provide support and tension for the return side of the conveyor belt or chain, positioned at the opposite end of the conveyor from the drive pulley.
- In-Depth Application: Assist in maintaining proper tension and alignment in conveyor belts, ensuring smooth and continuous material transport.

3. **Bend Pulleys:**
- Application: Installed at conveyor belt curves or bends to guide the belt and maintain tension, preventing belt misalignment and excessive wear.
- In-Depth Application: Minimize friction and wear on conveyor belts, ensuring efficient and reliable operation, particularly at curves or changes in direction.

4. **Snub Pulleys:**
- Application: Increase the angle of wrap around the drive pulley, enhancing traction and belt grip, particularly in applications where high torque is required.
- In-Depth Application: Improve drive efficiency and reduce belt slippage, ensuring reliable operation of incline or decline conveyors.

5. **Take-Up Pulleys:**
- Application: Adjust and maintain proper tension in the conveyor belt or chain, compensating for belt stretching and slack.
- In-Depth Application: Ensure optimal belt tension, preventing sagging or excessive slack, which can lead to belt damage and operational issues.

6. **Split Pulleys:**
- Application: Facilitate easy installation and replacement of pulleys without the need to disassemble the conveyor belt or system.
- In-Depth Application: Offer convenience and flexibility in maintenance and repairs, allowing for quick replacement of worn or damaged pulleys without significant downtime.

7. **Wing Pulleys:**
- Application: Equipped with extended wings or flanges to guide the belt and prevent material spillage, particularly in applications where the belt carries bulk materials.
- In-Depth Application: Contain and control the flow of materials on the conveyor belt, minimizing spillage and improving safety and cleanliness.

8. **Idler Pulleys:**
- Application: Provide support and reduce friction along the conveyor belt path, allowing the belt to move smoothly and efficiently.
- In-Depth Application: Support the conveyor belt, maintain proper alignment, and reduce wear on the belt and other conveyor components.

9. **Tension Pulleys:**
- Application: Apply and maintain the required tension in conveyor belts or ropes, ensuring proper operation and performance.
- In-Depth Application: Critical for maintaining optimal belt tension, preventing slippage, and ensuring reliable material transport in conveyor systems.

10. **Deflection Pulleys:**
- Application: Change the direction of the belt or rope, redirecting the material flow as needed in conveyor systems.
- In-Depth Application: Facilitate smooth and controlled changes in belt direction, allowing for efficient material handling and processing.