MADE IN U. S. A.

WEBSTER INDUSTRIES

GRAIN INDUSTRY

CHAINS · SPROCKETS · VIBRATING CONVEYORS

ENGINEERED TO EXCEL

ABOUT US

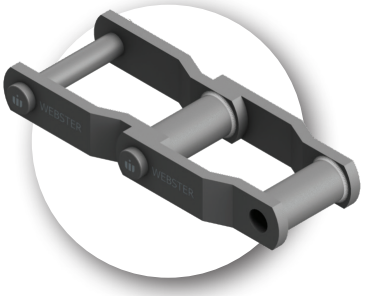
Webster Industries, Inc., headquartered in Tiffin, Ohio, is an innovative leader in the engineered class chain, sprocket and vibratory equipment markets. Since its start in 1876, Webster has evolved into a vertically integrated chain manufacturer that serves a variety of industries. The company now employs around 300 people nationwide and has facilities in Ohio, Mississippi and Oregon. Throughout its 150 years in business, Webster's focus has consistently been on American materials, American labor and American pride. A strong concentration on customer service, based on seamless vertical integration ensures that Webster's clients receive the highest quality products and service in the industry.

VERTICAL INTEGRATION

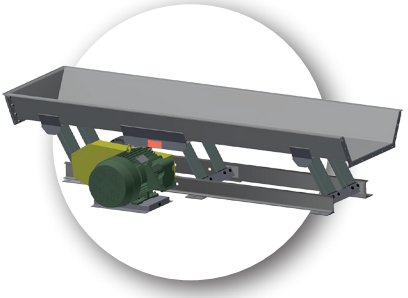
While many companies rely increasingly on outsourcing for production needs, Webster Industries has invested in building, maintaining and growing a vertically integrated manufacturing system. With full services under one roof at our Tiffin, Ohio, headquarters, Webster offers superior product design, consistent product quality and the best delivery time in the industry. Our 350,000 square foot manufacturing facility includes the following departments:

- Punching & Stamping
- Heat Treat
- Chain Assembly & Welding
- Machining Fabrication
- Sprocket Fabrication
- Metal Fabrication

OUR PRODUCTS

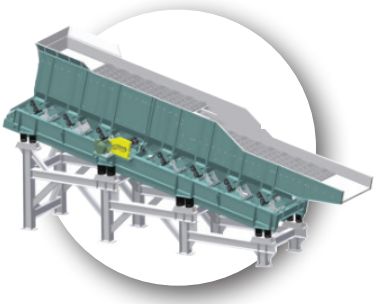


ENGINEERED CLASS CHAINS



VIBRATING CONVEYORS

SPROCKETS



ACTION PROCESS EQUIPMENT

Webster's Manufacturing Processes

Webster Industries utilizes a variety of manufacturing processes to ensure the highest quality solution is delivered to our customers. Webster's burnished holes and induction hardening are two of those value-added processes.

THE BEST HOLE IN THE INDUSTRY

Burnishing is a unique cold-forming process where a graduated mandrel (punch) is used to punch the sidebar pitch holes. First, the punch pierces the sidebar material, producing a heavy tapered slug. The punch rubs the metal surface of the pitch hole with sufficient force to cause plastic flowing of the metal. This rubbing or smearing (burnishing) action of the metal fills the breakout or tapered portion of the hole that was produced during the initial piercing operation. Single punched holes, as shown in Figure 1.1 below, only allow for 15-20% bearing surface. Punch & shaved holes, as shown in Figure 1.2 below, allow for 60-75% bearing surface. Webster's burnished holes achieve 85-90% bearing surface, as shown in Figure 1.3. Compared to single punched holes, burnished holes allow at least five times more surface against which the pin can rest, resulting in minimized material deformation of the hole under heavy loads.

The burnishing process results in a high quality, tighter tolerance, fatigue resistant, work hardened side bar holes, which are all primary keys to extend chain life. The major advantages of burnished pitch holes are the amount of bearing surface, accuracy of hole size and consistency of press fit.

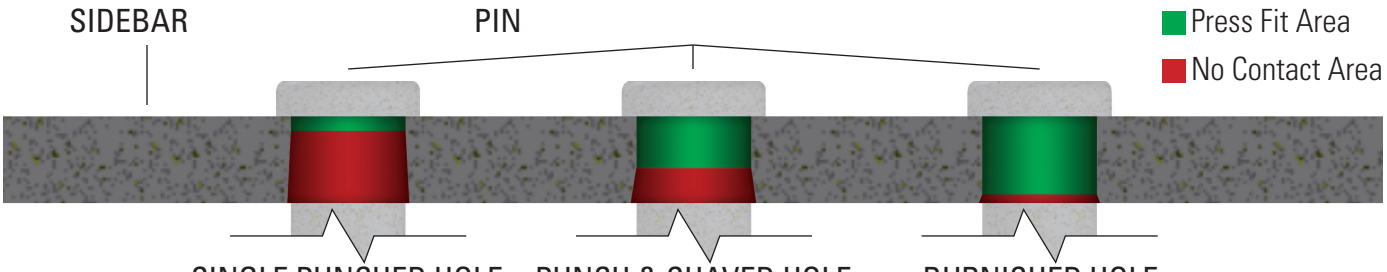
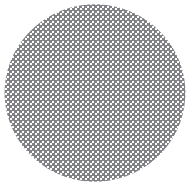


Figure 1.1 Figure 1.2 Figure 1.3

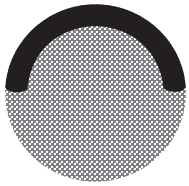
THE BEST PIN IN THE INDUSTRY

Induction hardening is a non-contact heating process that utilizes the principle of electromagnetic induction to produce heat inside the surface layer of a workpiece. By placing a conductive material (pin) into a strong alternating magnetic field (coil), electrical current can be made to flow in the material, creating heat. The current generated flows predominantly in the surface layer of the part; the depth of the hardened layer is determined by the frequency of the alternating field, the surface density and permeability of the material, the heat time, and the pin diameter or material thickness. Then, by immersing the part in a water, oil or polymer-based quench, the surface layer is altered to form a martensitic structure which is harder than the base metal. The core of the material remains the same, and its original properties are unaffected by the induction hardening process.



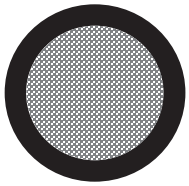
WEBSTER THRU-HARDENED PINS

Webster's pins are made of Duralloy©, thru-hardened to 35/40 Rc where the diameter is less than ¾".



COMPETITORS SELECTIVE INDUCTION HARDENING

Typically, other companies harden only the area that will experience wear. The pin must be oriented properly during assembly to receive the benefit of the induction-hardened surface, and the stop and start area of this induction-hardened zone can promote cracking, ultimately leading to chain failure.



CIRCUMFERENTIAL INDUCTION HARDENING

The load-bearing surface of the thru-hardened pin is induction hardened to 55/60 Rc to the appropriate depth typically 10% of the body diameter is 360°. The IH areas extend into the press fit areas of the pin to maintain the integrity of the pin and guard against failure due to pin shear. This also puts the IH stop and start areas under compression, eliminating potential cracking.

Welded Steel Mill Chains

Welded steel mill chains are designed for rugged, abrasive and demanding environments. The design allows for operating conditions that are less than desirable. Their rugged welded construction permits high speeds, minimal lubrication and easy modification for application specific attachments.

MATERIAL

Sidebars and barrels are medium carbon steel. Pins are medium carbon alloy steel and are thru hardened for maximum chain life. Pins can be induction hardened for even more wear resistance. The WH chains also have thru hardened sidebars and barrels for greater strength and wear resistance. All parts can be furnished with additional heat treatment on request or as the operating environment requires.

ASSEMBLY

Welded steel mill chains are riveted construction with cottered connecting pins. Cottered or press fit construction is available upon request.

INTERCHANGEABILITY

Welded steel mill chains are interchangeable with other standard makes of corresponding sizes and numbers.

APPLICATION

Welded steel mill chains are typically used in en-masse conveyors in the grain industry to move bulk materials such as corn, wheat, and soybeans. These chains use both steel flights and UHMW paddles attached to a chain to push the grain through a closed conveyor system. This combination offers strength, durability, ad quiet operation with less wear on the equipment. These chains are available with custom options to best suit different conveying needs.

OPERATION

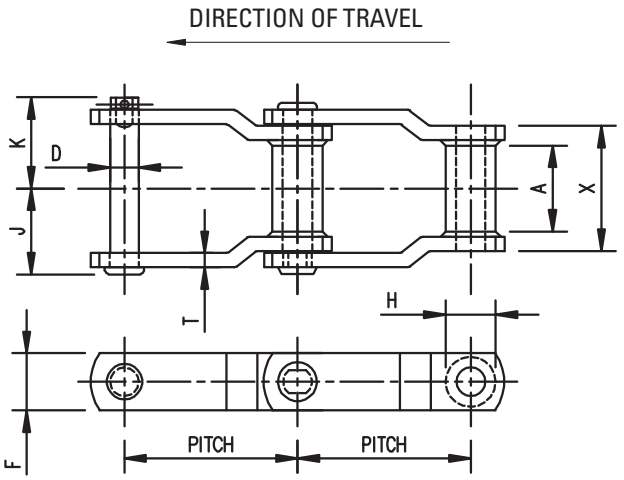
Maximum chain speed depends upon size of sprockets. For Conveyor Service see Table 2, Section A in Webster Master Catalog.

CHAIN NO.	CHAIN STYLE	AVG PITCH INCHES	APPROX. LINKS IN 10 FT	AVG. WEIGHT PER FT. LBS.	AVG ULTIMATE STRENGTH IN LBS.	GRAIN RATED WORKING LOAD IN LBS. ☆	General Dimensions		
							LENGTH OF BEARING	TO COTTER END	TO HEAD OR RIVET END
WH78USA	O	2.609	46	4.0	30,000	4,300	2	1 19/32	1 7/16
WHC78USA	S	2.609	46	4.0	30,000	4,300	2	1 19/32	1 7/16
WHX78USA	O or S	2.609	46	4.0	30,000	4,700	2	1 19/32	1 7/16
WS78USA	O or S	2.609	40	4.1	20,000	3,500	2	1 19/32	1 7/16
WH82USA	O	3.075	39	4.8	36,000	5,300	2 1/4	1 23/32	1 19/32
WHC82USA	S	3.075	39	4.8	36,000	5,300	2 1/4	1 23/32	1 19/32
WHX82USA	O or S	3.075	39	4.8	36,000	5,800	2 1/4	1 23/32	1 19/32
WS82USA	O or S	3.075	39	4.9	25,000	4,200	2 1/4	1 23/32	1 19/32
WH124USA	O	4.000	30	8.3	69,000	8,600	2 3/4	2 3/32	2 1/32
WHC124USA	S	4.000	30	8.3	69,000	8,600	2 3/4	2 3/32	2 1/32
WHX124USA	O or S	4.000	30	8.3	69,000	10,300	2 3/4	2 3/32	2 1/32
WS124USA	O or S	4.000	30	8.5	47,000	7,200	2 3/4	2 1/32	2 1/32
WH132USA	O	6.050	20	14.2	115,000	19,200	4 3/8	2 1/32	3 1/16
WHC132USA	S	6.050	20	14.2	115,000	19,200	4 3/8	2 1/32	3 1/16
WHX132USA	O or S	6.050	20	14.2	115,000	23,600	4 3/8	2 1/32	3 1/16
WS132USA	O or S	6.050	20	15.0	78,000	13,000	4 3/8	3 1/4	3 1/8
WH157USA	O	6.050	20	20.6	161,000	22,700	4 5/8	3 3/16	3 3/8
WHX157XHD	O	6.050	20	23.7	200,000	33,000	4 5/8	3 3/16	3 5/16

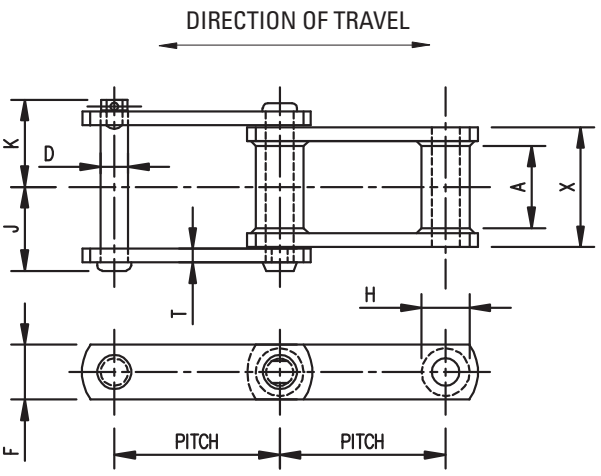
TO SEE THE FULL **WELDED STEEL MILL CHAIN** CATALOG, SCAN HERE

NOTE: Hybrid chains available in combination of carbon and stainless steel

☆ Subject to Service Factor Table 9 and Speed Factor Table 11, Section A of the Webster Master Catalog



OFFSET (O) STYLE



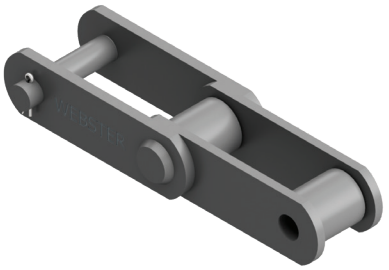
STRAIGHT (S) STYLE

Abbreviations of Material and Treatment
M.C.H.T. . . . . Medium Carbon, Heat Treated
ALY.H.T. . . . . Alloy Steel, Heat Treated

	PINS		SIDEBARS			BARRELS		MAX SPKT. WIDTH
	DIA.		THK	HEIGHT		OUTSIDE DIA.		
CHAIN NO.	D	MATERIAL	T	F	MATERIAL	H	MATERIAL	A
WH78USA	½	ALY.H.T.	¼	1⅛	M.C.H.T.	⅞	M.C.H.T.	1⅛
WHC78USA	½	ALY.H.T.	¼	1⅛	M.C.H.T.	⅞	M.C.H.T.	1⅛
WHX78USA	½	ALY.I.H.	¼	1⅛	M.C.H.T.	⅞	M.C.H.T.	1⅛
WS78USA	½	17-4 PH	¼	1⅛	316L SS	⅞	17-4 PH	1⅛
WH82USA	9/16	ALY.H.T.	¼	1¼	M.C.H.T.	1 1/16	M.C.H.T.	1¼
WHC82USA	9/16	ALY.H.T.	¼	1¼	M.C.H.T.	1 1/16	M.C.H.T.	1¼
WHX82USA	9/16	ALY.I.H.	¼	1¼	M.C.H.T.	1 1/16	M.C.H.T.	1¼
WS82USA	9/16	17-4 PH	¼	1¼	316L SS	1 1/16	17-4 PH	1¼
WH124USA	¾	ALY.H.T.	⅜	1½	M.C.H.T.	1¼	M.C.H.T.	1½
WHC124USA	¾	ALY.H.T.	⅜	1½	M.C.H.T.	1¼	M.C.H.T.	1½
WHX124USA	¾	ALY.I.H.	⅜	1½	M.C.H.T.	1¼	M.C.H.T.	1½
WS124USA	¾	17-4 PH	⅜	1½	316L SS	1¼	17-4 PH	1½
WH132USA	1	ALY.H.T.	½	2	M.C.H.T.	1¾	M.C.H.T.	2¾
WHC132USA	1	ALY.H.T.	½	2	M.C.H.T.	1¾	M.C.H.T.	2¾
WHX132USA	1	ALY.I.H.	½	2	M.C.H.T.	1¾	M.C.H.T.	2¾
WS132USA	1	17-4 PH	½	2	316L SS	1¾	17-4 PH	2¾
WH157USA	1⅛	ALY.H.T.	⅝	2½	M.C.H.T.	1¾	M.C.H.T.	2¾
WHX157XHD	1¼	ALY.I.H.	⅝	3	M.C.H.T.	1¾	M.C.H.T.	2¾

Steel Bushed Roller Chains

Steel bushed roller (SBR) chains are used for a broad range of conveyor and elevator applications. They are the appropriate selection for long life and heavy-duty service where difficult operating conditions prevail.



MATERIAL

Sidebars are heat-treated, medium carbon steel. Pins are alloy steel, through hardened and induction hardened to provide maximum toughness, excellent wear resistance and a flexible inner core to deliver the ultimate chain life. Bushings are case hardened steel to provide maximum wear resistance and chain life. Rollers normally provided as plain tread and plain faced.

ASSEMBLY

SBR chains for elevators are typically furnished in cottered construction.

INTERCHANGEABILITY

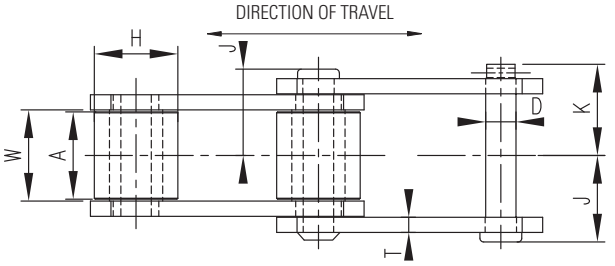
SBR chains are interchangeable with other standard makes of corresponding sizes and numbers.

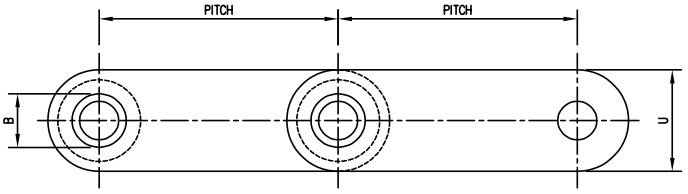
APPLICATION

Welded steel mill chains are typically used in the grain industry to move bulk materials such as corn, wheat, and soybeans. These chains use both steel flights and UHMW paddles attached to a chain to push the grain through a closed conveyor system. This combination offers strength durability, and quiet operation with less wear on the equipment. These chains are available with custom options to best suit different conveying needs.

OPERATION

SBR chains are designed for slow or moderate-speed applications. Maximum chain speed depends upon size of sprockets. For Maximum Recommended Conveyor Speed see Table 2, Section A, in the Webster #400 Master Catalog.





CHAIN NO.	CHAIN STYLE	AVERAGE PITCH INCHES	APPROX. LINKS IN 10 FEET	AVERAGE WEIGHT PER FT. LBS.	AVERAGE ULTIMATE STRENGTH IN LBS.	GRAIN RATED WORKING LOAD IN LBS.☆	GENERAL DIMENSIONS			PINS		
							INSIDE SIDE-BARS	℄ TO COTTER END	℄ TO HEAD OR RIVET END	DIA.		
							W	K	J	D	STYLE	MATERIAL
81X*	S	2.609	46	2.5	24,000	3,000	1 1/16	1 5/32	1	7/16	F	ALY.H.T
81XH*	S	2.609	46	3.8	33,000	3,400	1 1/16	1 3/8	1 13/16	7/16	F	ALY.H.T
81XHH*	S	2.609	46	4.5	42,000	3,700	1 1/16	1 15/32	1 9/32	7/16	F	ALY.H.T
S2436+ USA	S or O	4.000	30	4.8	44,000	7,400	1 1/4	1 15/32	1 11/32	9/16	B	ALY.H.T
S2400+ USA	S or O	4.000	30	4.8	44,000	7,400	1 5/16	1 3/8	1 1/2	9/16	B	ALY.H.T
S2450+ USA	S or O	4.000	30	6.0	52,000	8,650	1 1/2	1 25/32	1 5/8	5/8	A	ALY.I.H.

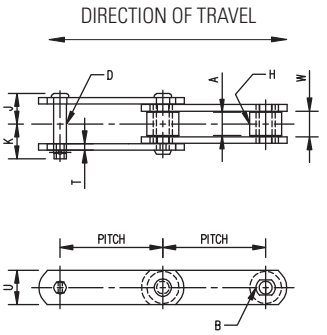
*NOTE: Available in domestic or imported versions

☆ Subject to Service Factor Table 9 and Speed Factor Table 11, Section A of the Webster Master Catalog

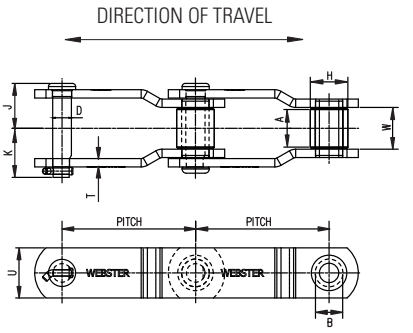
TO SEE THE FULL **SBR CHAIN** CATALOG, SCAN HERE

ES CONNECT® EASY & SAFE

NOW AVAILABLE WITH **ES CONNECT® SYSTEM**

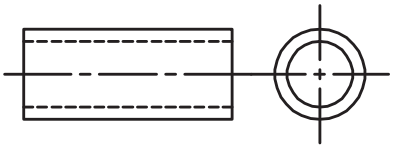


STRAIGHT (S)



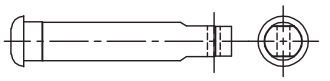
OFFSET (O)

BUSHINGS

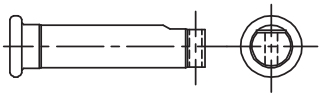


STYLE 3

PINS



STYLE A



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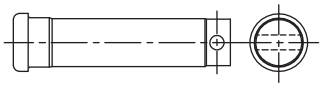
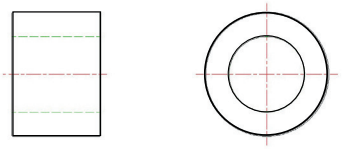


STYLE F

ROLLERS



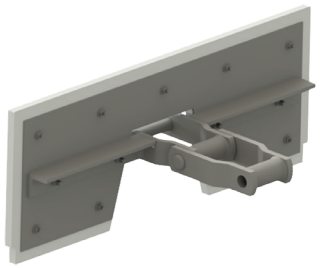
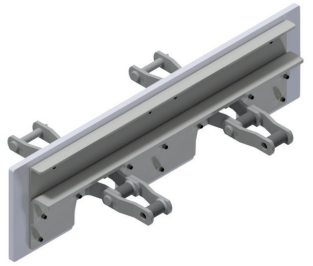
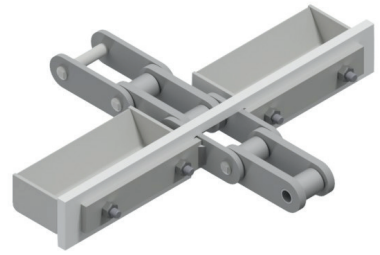
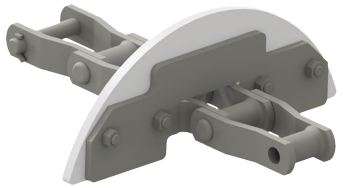
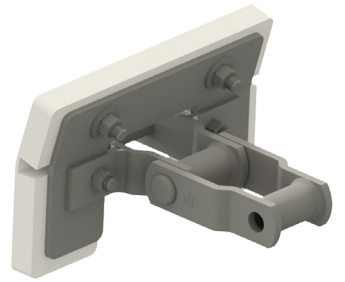
STYLE A

Abbreviations of Material and Treatment
M.C.H.T. . . . . Medium Carbon, Heat Treated
L.C.C.H. . . . . .Low Carbon, Case Hardened
ALY.C.H. . . . . .Alloy Steel, Case Hardened

CHAIN NO.	SIDEBARS			BUSHINGS			ROLLERS			
	THK.	HEIGHT		OUTSIDE DIA.			TREAD DIA.	TREAD WIDTH		
	T	U	MATERIAL	B	STYLE	MATERIAL	H	A	STYLE	MATERIAL
81X USA	5/32	1 1/8	M.C.H.T.	19/32	3	L.C.C.H.	29/32	31/32	A	L.C.C.H.
81XH USA	5/16	1 1/4	M.C.H.T.	19/32	3	L.C.C.H.	29/32	31/32	A	L.C.C.H.
81XHH USA	5/16	1 1/4	M.C.H.T.	19/32	3	L.C.C.H.	29/32	31/32	A	L.C.C.H.
S2436+ USA	1/4	1 1/4	M.C.H.T.	13/16	3	L.C.C.H.	1 1/8	1 1/8	A	ALY.H.T.
S2400+ USA	1/4	1 1/2	M.C.H.T.	13/16	3	L.C.C.H.	1 1/8	1 3/16	A	L.C.C.H.
S2450+ USA	5/16	1 1/2	M.C.H.T.	7/8	3	ALY.C.H.	1 1/4	1 3/8	A	ALY.C.H.

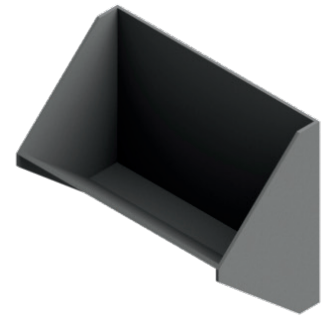
FLIGHT AND PADDLE ASSEMBLIES

- Durable Construction: Each flight features a robust steel attachment paired with a high-performance UHMW paddle for superior material handling.
- Premium Material Options: Choose from Carbon or Stainless Steel, with Stainless available in corrosion-resistant 304 or 316 grades to meet your needs.
- Versatile Color Selection: Stocked in White, Green, and Black UHMW, with additional colors available to match your specifications.
- Tailored to Your Needs: Custom cuts, bends, and designs ensure a perfect fit for your specific application.

BUCKETS

Fabricated steel, cast, and plastic buckets are available for the application required. Modern manufacturing methods and technical expertise insure quality and quantity production. Buckets are available in a variety of materials with numerous options such as hardface welding or wear lips to reduce abrasion.



TO LEARN MORE
ABOUT OUR
BUCKETS
SCAN HERE

Webster Sprocket Design

Webster Sprockets are designed and manufactured according to the same core quality standards as Webster chain. Each sprocket is carefully designed by Webster's experienced engineering team, and is then manufactured with the highest quality USA made medium carbon steel by skilled American laborers.

Pairing Webster Chain and Sprockets on your application, ensures that your conveyor is performing at the highest level of productivity, reliability and service.

WHY WEBSTER SPROCKETS?

- Purchase with Chain Double Your Warranty
- Industry Best Delivery
- Customization Available
- Highest Quality
- Included in Free Freight Policy
- Made In The USA

WEBSTER'S SPROCKET DESIGN

Webster Sprockets are designed and manufactured per the ASME/ANSI specification. The sprocket selection and design depend on the chain and the customer's application. Webster's standard design utilizes low profile teeth to ensure the sprocket does not interfere with the chain and its attachments. Various material options and numerous teeth profiles, plating options and special features are available upon request. Please consult our engineering department for any special needs.

WEBSTER SPROCKET FEATURES

LIFTING HOLE

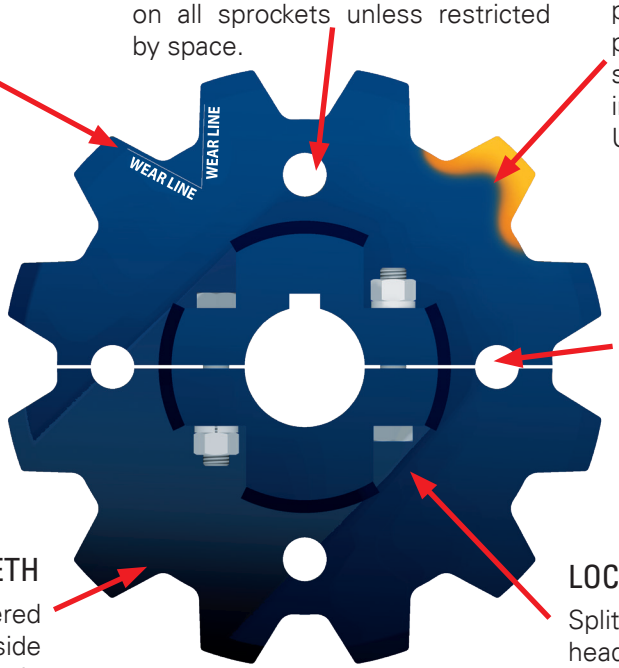
Are positioned directly above the key and provide easy placement of a lifting strap, rod or other device to make sprocket installation easier and safer. Lifting holes are provided on all sprockets unless restricted by space.

FLAME HARDENED TEETH

Webster's automated, computer-controlled hardening process increases wear resistance and sprocket longevity. Our hardening process allows us to achieve precise hardness levels. All Webster sprockets have a minimum 40 Rc in all critical wear areas and utilize USA made 1045 steel plate.

WEAR LINE INDICATORS

Indicate when it is time to replace the sprockets. When the sprocket face is worn to the scribed line the sprocket needs replaced along with the chain. Wear line indicators are an easy visual tool to help guide best practices in chain sprocket and conveyor operations.



LIGHTENING HOLES

Provided on some sprockets so that weight can be reduced. Lightening holes come standard on most bucket elevator sprockets and upon customer request unless restricted by space.

MACHINED CHAMFERED TEETH

All teeth are machine chamfered at a 15 degree angle on each side of the tooth to ensure proper chain and sprocket engagement. This reduces the likelihood of sprocket and sidebar scrubbing or improper chain engagement resulting in premature, unexpected failures.

LOCKING HEAD FEATURE

Split sprockets come with a locking head feature which allow for ease of assembly. The hub holds the head of the bolt against its flat edge. This allows one tool and one person to easily torque the locking nut in place securing the sprocket to the shaft.

Sprocket Construction & Type

MATERIAL

FLAME CUT, FLAME HARDENED SPROCKETS AND TRACTION WHEELS

Flame cut, flame hardened sprockets and traction wheels are manufactured to a standard hardness of 40 Rc minimum at the surface. The inherent strength and flame hardened teeth of these sprockets provide maximum service in abrasive applications with high shock loading. The versatility of flame cut sprockets allows for specialized designs for a variety of customer requirements.

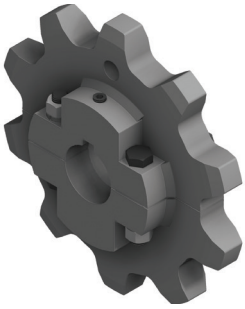
STAINLESS STEEL SPROCKETS

Stainless steel sprockets are available for extremely harsh, abrasive or highly corrosive applications. Webster offers multiple grades of stainless steel including 300 and 400 series.

CONSTRUCTION

SOLID

Solid sprockets are the standard body option. This sprocket is manufactured in one piece and will need to be slid on the shaft during installation in the conveyor.



SPLIT

Split sprockets are manufactured in two pieces. They are used where ease of installation or replacement is required without disturbing the shaft, bearings or other sprockets.

TYPE

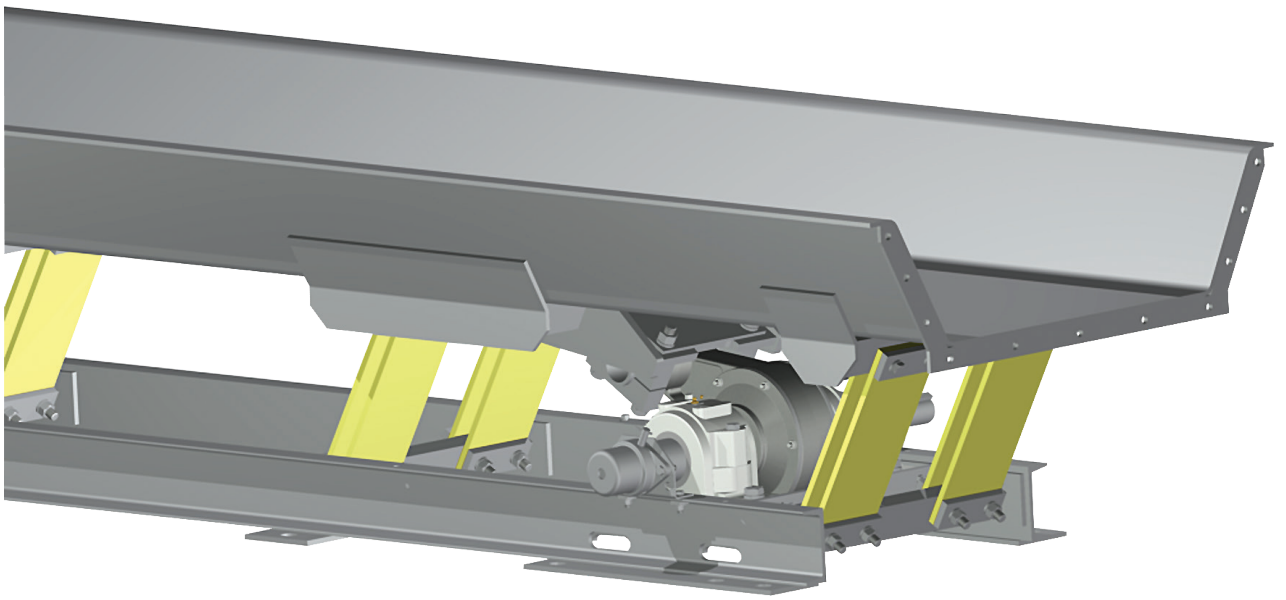
- Mud Relief Sprockets
- Hunting (Walking) Tooth Sprockets

ARMORMAX® SPROCKETS

For severe duty applications and the demanding requirements for bucket elevators, we offer **ArmorMAX®** Sprockets. These sprockets have superior hardness specifications. all **ArmorMAX®** Sprockets are hardened to 55 rc minimum at the surface.

TO SEE THE FULL **SPROCKETS** CATALOG, SCAN HERE

FS Series Vibrating Conveyors



This series includes the FSL, a light-duty, low-headroom conveyor for small-particle, low-capacity applications; the FSM, a medium-duty conveyor for small-particle, highercapacity applications; and the FSH, a medium- to heavy-duty conveyor for a larger particle size and increased capacity applications. All FS conveyors incorporate the natural frequency principle, controlled vibration, positive eccentric drive and standardized sectional construction. They provide a rugged and economical answer to many bulk material conveying and processing jobs.

FS series vibrating conveyors will convey granular or lump material ranging in size from minus 100 mesh to any lump size which will fit into the pan. They can handle weight from several pounds to several hundred pounds per cubic foot, and are particularly effective for conveying heavy, sharp or abrasive materials that are not readily handled on other types of conveyors. They also may be adapted to processing operations, such as inspecting, sorting, screening, washing, dewatering, heating, cooling and drying.

The following pages detail the dimensions of our standard pan sizes. Other pan sizes and shapes are available. FS series vibrating conveyors can be custom-designed for your application.

MATERIAL

FS series vibrating conveyors incorporate fabricated steel pans, a natural frequency spring system, a positive eccentric drive powered by an electric motor and v-belts on an adjustable base.

ASSEMBLY

Standard drive and extension sections are delivered in preassembled sections. Jig-fixtured, bolted pan flanges make field assembly easy.

AVAILABLE WITH

- Windows
- Screens
- Covers
- Feed End Drives
- Slide Gates
- Flanged or Straight Sides
- Coil Springs

APPLICATION

FS series vibrating conveyors feature smooth troughs that gently handle grain and can be equipped with covers, screens, windows, and slide gates for enhanced control and versatility. Ideal for dump areas, they utilize feed-end drives for easy maintenance and are commonly used in sorting, screening, and seed treatment applications. These conveyors are well-suited for seed processing plants, feed mills, and grain storage facilities – offering reliable performance while preserving grain quality. For heavier-duty applications, coil spring conveyors provide increased capacity with wider pans, longer single-drive runs and efficient sorting capabilities

TO SEE THE FULL **VIBRATING CONVEYOR** CATALOG, SCAN HERE

MADE IN U. S. A.

THE WEBSTER VALUE

For over 145 years, Webster has provided conveying solutions to a diverse range of markets with our extensive variety of products and industry expertise. A key to our success is making a difference through industry, work, self, family and community.

AMERICAN MATERIALS, AMERICAN LABOR & AMERICAN PRIDE

Webster's reputation for high-quality products originates from the same principles they were founded on in 1876. Our Made in the USA brand is demonstrated through our domestic supply chain partners and our American workforce.

VERTICALLY INTEGRATED MANUFACTURING FACILITY

While companies are relying increasingly on outsourcing for production needs, Webster has invested in building, maintaining and growing a vertically integrated manufacturing system.

WORLD CLASS CUSTOMER SUPPORT & DELIVERIES

Providing value to customers is Webster's top priority. Our commitment and responsiveness to customers, industry best deliveries and our engineered solutions are what set us apart from the competition.

SUPERIOR QUALITY & INNOVATION

Webster's strict manufacturing, ISO quality standards and continuous innovation ensure that we are providing our customers with the highest quality products in the industry.

ESTABLISHED 1876

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