



wirebelt[®]
halechain

WE MAKE THE LINK TO YOU

Specializing in the manufacturing of
Custom Made Jack Chains and
Ladder Sprocket Chains

www.wirebelt.com



Proven Performance Since 1893

Hale Bros. Inc. was established in 1893. Since then the company has specialized in the manufacture of jack chain and ladder type sprocket chain. We have the capabilities to supply you with precision chain made to standard specifications or your own particular needs.

GENERAL DESCRIPTION

Hale chain is an excellent, low cost vehicle for transmitting positive, timed power when high torque or strength is not a prime consideration. It is precision manufactured to close tolerances as shown on the overleaf tables. Hale ladder chain has, in many instances proved to be an effective and lighter replacement for roller type chain. When used in conjunction with non-metallic sprockets it requires no lubrication. Compared to most belt drives, chain is longer wearing, does not stretch, is less effected by high temperatures and corrosive atmospheres and can engage sprockets on both surfaces.

AVAILABILITY

Ladder chain can be pre-assembled into endless loops to your specifications or supplied pre-cut to the length you require. This can effectively reduce assembly time in your plant, further lowering your cost.

MATERIALS

Basic steel, Hi-Carbon Spring Steel and Brass are the more common wires used to form our chain. However Stainless Steel in several types, Aluminum, Inconel, Nichrome and even Titanium have been supplied.



FINISHES

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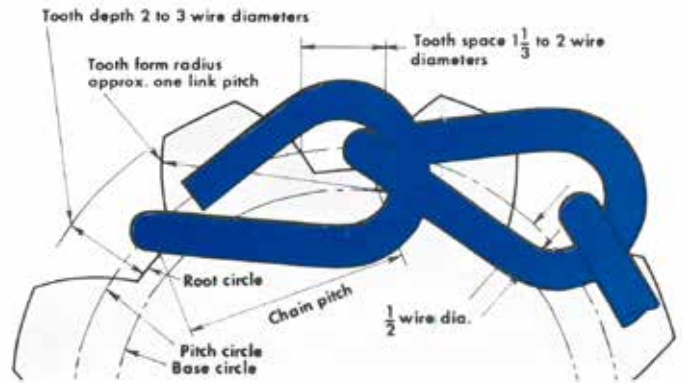
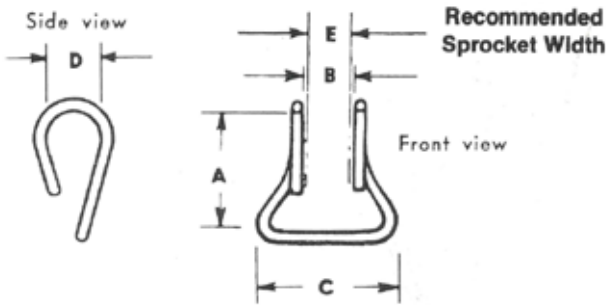
SPROCKETS

Made from a variety of plastic materials they are available in a wide range of pitch diameters. Bore sizes and shapes can be custom made and where desired, cam action can be incorporated in the sprocket.

SUMMARY

Thus Hale Bros. Inc. can offer a complete drive mechanism package: A complete line of chains from Standard to Metric and from Micro to Fractional (1/4" and 3/8") pitches in a wide selection of wire materials and finishes. Combine this with a vast variety of complementary sprockets and Hale can offer a solution to many of the light power transmission problems you may have. Our staff is available for technical assistance in custom manufacturing our chain to your particular requirements.

SIZE SELECTION TABLES



LINK SPECIFICATIONS

These dimensions apply to standard series. Chains can also be made to special requirements in specifications or metal.

| STANDARD SAE SIZES | | | | | | | |
|--------------------|-----------|---------------|---------------|-------------|-------------|-------------|------|
| Wire Gauge | # Links/F | Wire Diameter | A | B | C | D | E |
| 23 - 98 | | .025 | .1209 - .1233 | .060 - .070 | .161 - .171 | .035 - .045 | .030 |
| 21 - 81 (micro) | | .032 | .1475 - .1486 | .075 - .085 | .215 - .230 | .052 - .062 | .060 |
| 21 - 78 1/2 | | .032 | .1525 - .1533 | .050 - .060 | .195 - .210 | .045 - .055 | .035 |
| 21 - 72 | | .032 | .1662 - .1672 | .075 - .085 | .215 - .230 | .052 - .062 | .060 |
| 20 - 65 | | .035 | .1840 - .1852 | .090 - .100 | .260 - .280 | .062 - .072 | .070 |
| 19 - 65 | | .041 | .1840 - .1852 | .115 - .125 | .295 - .315 | .062 - .072 | .100 |
| 4.8 MM | | .041 | 4.8 MM | .115 - .125 | .295 - .315 | .062 - .072 | .100 |
| 1/4 | | .054 | .248 - .251 | .125 - .135 | .325 - .345 | .081 - .091 | .100 |
| 18 - 42 | | .048 | .2846 - .2868 | .125 - .135 | .325 - .345 | .081 - .091 | .100 |
| 17 - 34 | | .054 | .3514 - .3546 | .180 - .200 | .460 - .480 | .105 - .115 | .155 |
| 16 - 30 1/2 | | .062 | .388 - .398 | .191 - .201 | .431 - .451 | .099 - .109 | .118 |
| 13 - 33 | | .091 | .361 - .365 | .195 - .215 | .580 - .600 | .118 - .128 | .170 |
| 14 - 34 | | .080 | .3507 - .3553 | .195 - .215 | .545 - .565 | .140 - .155 | .170 |
| 3/8 | | .080 | .372 - .377 | .195 - .215 | .545 - .565 | .140 - .155 | .170 |

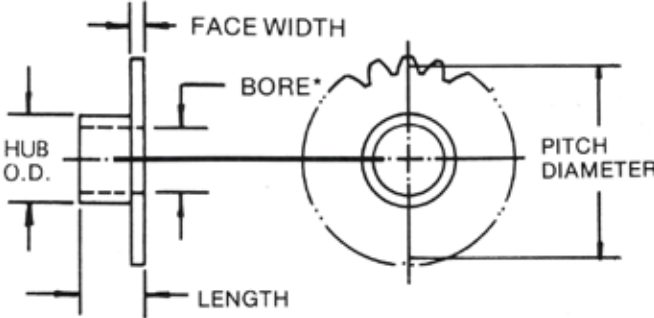
| STANDARD METRIC SIZES | | All Dimensions +/- .15 MM | | | | |
|-----------------------|---------------|---------------------------|---------|---------|---------|--------|
| Pitch | Wire Diameter | A | B | C | D | E |
| 3.75 MM | .8 mm | 3.75 mm | 2.0 mm | 5.8 mm | 1.1 mm | 1.9 mm |
| 4.5 MM | 1.0 mm | 4.5 mm | | 7.3 mm | 1.6 mm | 3.0 mm |
| 4.8 MM | .9 mm | 4.8 mm | 2.8 mm | 6.8 mm | 1.2 mm | 2.6 mm |
| 4.8 MM | 1.0 mm | 4.8 mm | 2.8 mm | 7.0 mm | 1.2 mm | 2.6 mm |
| 6.35 MM | 1.2 mm | 6.35 mm | 3.2 mm | 8.7 mm | 1.6 mm | 3.0 mm |
| 8.5 MM | 1.6 mm | 8.5 mm | 4.4 mm | 11.0 mm | 2.64 mm | 3.0 mm |
| 10 MM | 1.6 mm | 10.0 mm | 4.25 mm | 11.2 mm | 2.64 mm | 3.0 mm |

| *Yield point in pounds approx. | | | | | Weight/100 FT | |
|--|-----------|-------|--------------|-------|---------------|-------|
| Beyond yield point chain takes permanent stretch | | | | | | |
| Wire Gauge | # Links/F | STEEL | HIGH TENSILE | BRASS | STEEL | BRASS |
| 21 - 81 (micro) | | 18 | 35 | 11 | 1.6 | 1.7 |
| 21 - 78 1/2 | | 18 | 35 | 11 | 1.5 | 1.6 |
| 21 - 72 | | 18 | 35 | 11 | 1.6 | 1.7 |
| 20 - 65 | | 22 | 40 | 13 | 2.1 | 2.3 |
| 19 - 65 | | 30 | 55 | 18 | 2.8 | 3 |
| 4.8 MM | | 30 | 55 | 18 | 2.8 | 3 |
| 1/4 | | 30 | 90 | 26 | 3.7 | 4.1 |
| 18 - 42 | | 40 | 75 | 25 | 3.4 | 3.6 |
| 17 - 34 | | 50 | 95 | 30 | 4.3 | 4.6 |
| 14 - 34 | | 80 | 150 | 45 | 10.6 | 11.4 |
| 3/8 | | 80 | 150 | 45 | 10.3 | 11.1 |

Horse-power ratings may be figured by formula
HP = FRn/5252
 Where:
 F = Yield point of chain
 R = Radius of the sprocket (Pitch Radius)
 n = Number of revolutions per minute

Pay close attention to the yield point for each wire gauge to avoid permanently stretching your chain. If you have questions about which chain is best for your application or what other customers in your industry have chosen as a solution, please don't hesitate to contact us.

**Order Sprockets by Chain Size
 Number of Teeth and Bore**



DOUBLE JACK CHAIN

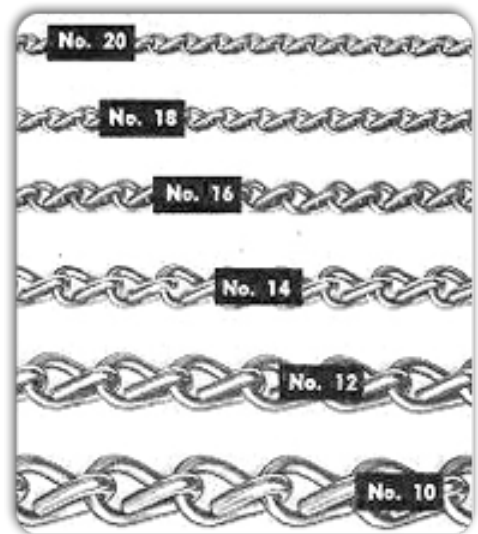
USES: Ornamental chain, light fixture suspension, children’s toys, many other general utility applications.

STANDARD MATERIALS: Mild steel or brass. Also available in stainless steel and aluminum.

STANDARD FINISHES: Bright, electro-galvanized, coppered, nickel plated, brass plated, cadmium plated.

LINK DESCRIPTION: Figure ‘S’ design, closed, twisted.

STANDARD PACKAGING: 100 feet per carton, 250, 500, 1000 feet per reel depending upon the size. Can also be bulk packed.



| DOUBLE JACK CHAIN | | | | | | | |
|-------------------|------------------------|-----------------------------------|-------|-----------------------------|-------|-----------------------------|-------|
| Trade Size | Wire Diameter (inches) | Average Tensile Strength (Pounds) | | Average Pounds Per 100 Feet | | Average Feet Per 100 Pounds | |
| | | Steel | Brass | Steel | Brass | Steel | Brass |
| 18 | .047 | 25 | 20 | 2.4 | 2.6 | 4220 | 3830 |
| 16 | .063 | 45 | 30 | 3.8 | 4.1 | 2665 | 2420 |

SINGLE JACK CHAIN

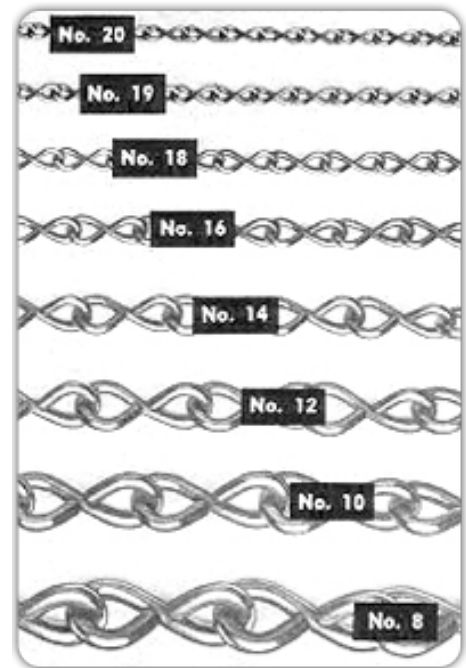
USES: Fixture suspension, such as flower pots, fluorescent lights, etc., anti-loss or theft chains. A light chain suitable for uses not requiring high strength.

STANDARD MATERIALS: Mild steel or brass Also available in stainless steel and aluminum.

STANDARD FINISHES: Bright, electro-galvanized, hot galvanized, coppered, nickel plated, brass plated, cadmium plated.

LINK DESCRIPTION: Figure 8 design, twisted.

STANDARD PACKAGING: 100 feet per carton, 250, 500, 1000 feet per reel depending upon the size. Can also be bulk packed.



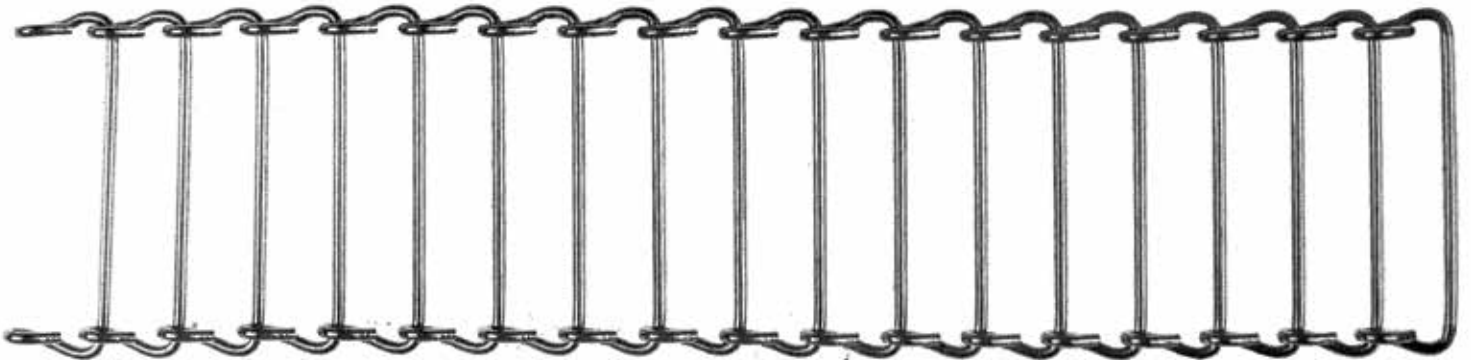
| SINGLE JACK CHAIN | | | | | | | |
|-------------------|------------------------|-----------------------------------|-------|-----------------------------|-------|-----------------------------|-------|
| Trade Size | Wire Diameter (Inches) | Average Tensile Strength (Pounds) | | Average Pounds Per 100 Feet | | Average Feet Per 100 Pounds | |
| | | Steel | Brass | Steel | Brass | Steel | Brass |
| 20 | .035 | 12 | 8 | 1 | 1.1 | 10,000 | 9090 |
| 19 | .041 | 15 | 10 | 1.4 | 1.5 | 7300 | 6625 |
| 18 | .047 | 20 | 15 | 1.8 | 1.9 | 5715 | 5210 |
| 16 | .063 | 45 | 30 | 3.3 | 3.6 | 3075 | 2800 |
| 14 | .080 | 65 | 45 | 4.9 | 5.4 | 2055 | 1865 |
| 12 | .106 | 115 | 80 | 8.5 | 9.4 | 1175 | 1070 |
| 10 | .135 | 190 | 135 | 14.8 | 16.2 | 680 | 615 |
| 8 | .162 | 240 | 168 | 21 | 21.2 | 475 | 470 |


HALCON CHAIN



- 1/2" PITCH
- .080 DIA
- T316 SS WIRE
- 70LB. TENSILE
- Outside widths available: 2^{1/8}, 2^{1/4}, 2^{3/8}

This conveyor chain can be custom made (narrower) to meet the requirements of your application.





All of Hale Bros., Inc.'s wire formed chains including jack chain, double jack chain, and ladder sprocket chain can be manufactured from the most common types of stainless steel, giving you a source of stainless steel you can count on for reliable chain in the many varieties that you need.

Having spent so many years in this business, we're well aware that no two applications are exactly alike. Because of that, our wide selection of stainless steel chain is carefully selected to offer a solution for widely varying applications. Stainless steel chain available includes grade 304 stainless steel chain for food related and exterior applications, grade 316 stainless steel chain for medical instruments, photography and x-ray processing, and grade 410 stainless steel chain for customers that require corrosion resistance and heat treat ability.

In addition to offering stainless steel chain in various grades, we also offer more exotic alloys such as inconel and nichrome, as well as precipitation hardening grades such as 17-8 and 18-8.





Every day we provide the chain and sprocket solutions customers in a wide variety of industries need. For every customer, our goal is to help you succeed with better products, greater reliability, and competitive pricing. Whether your applications are simple or complex - we have the chains and sprockets that you can depend on to deliver superior performance.

To request a quote for chains or sprockets or to learn more about our capabilities call **603-644-2500** or visit us at **www.wirebelt.com**



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