

Roughneck WIRE MESH SLINGS

Specialty Slings with Particular Properties and Uses

Widely used in metalworking shops and steel warehouses where loads are abrasive, hot or tend to cut web

Features, Advantages and Benefits

Promotes Safety

- Steel construction resists abrasion and cutting
- Each sling permanently stamped with capacity and serial number
- Good flexibility - grips load's contours
- Each sling proof tested and certified

Saves Money

- Grips load firmly without stretching - reduces load damage
- Resists abrasion and cutting for greater sling life
- Flexibility and low stretch reduce load damage
- Wide bearing area distributes load to help avoid load damage
- Repairable - thus very cost effective
- Alloy steel end fittings - plated for long life
- Wire mesh is galvanized - resists corrosion

Saves Time

- Width of mesh helps control and balance load
- End fittings fit most large crane hooks

Roughneck Wire Mesh Sling Construction

Standard Construction: Alloy steel end fittings, zinc plated. Mesh is galvanized high tensile steel. 10 gage is standard, 12 gage is available upon request

Optional Construction: Stainless steel mesh is available for corrosive and hotter environments.

Inspection Criteria for Roughneck Wire Mesh Slings

Remove the sling from service if any of the following is visible: (See Page 102)

- A broken weld or brazed joint along the sling edge
- A broken wire in any part of the mesh
- Reduction in wire diameter of 25% due to abrasion or 15% due to corrosion
- Lack of flexibility due to distortion of the mesh
- Visible distortion or wear of either end fitting
- Cracked end fitting



Environmental Considerations

- Wire mesh slings shall not be used at temperatures above 550°F.
- Store in a clean, dry area to avoid corrosive action

WARNING

Do not edge load. Full width of mesh must contact load.

How To Order

Specify:

1. Mesh Gage (10 or 12)
2. Mesh Width - Inches
3. Length - Feet (Bearing point to bearing point)
4. Sling Type (1 or 2)

Type 1



Type 2



| Wire Mesh Width (in.) | Rated Capacity (lbs.) * | | |
|------------------------------|-------------------------|--------|--------|
| | Vertical | Choker | Basket |
| 10 Gage - Heavy Duty | | | |
| 2 | 2,300 | 2,300 | 4,600 |
| 3 | 3,500 | 3,500 | 7,000 |
| 4 | 4,800 | 4,800 | 9,600 |
| 6 | 7,200 | 7,200 | 14,400 |
| 8 | 9,600 | 9,600 | 19,200 |
| 10 | 12,000 | 12,000 | 24,000 |
| 12 | 14,400 | 14,400 | 28,800 |
| 14 | 16,800 | 16,800 | 33,600 |
| 16 | 19,200 | 19,200 | 38,400 |
| 18 | 21,600 | 21,600 | 43,200 |
| 20 | 24,000 | 24,000 | 48,000 |
| 12 Gage - Medium Duty | | | |
| 2 | 1,600 | 1,600 | 3,200 |
| 3 | 2,400 | 2,400 | 4,800 |
| 4 | 3,200 | 3,200 | 6,400 |
| 6 | 4,800 | 4,800 | 9,600 |
| 8 | 6,400 | 6,400 | 12,800 |
| 10 | 8,000 | 8,000 | 16,000 |
| 12 | 9,600 | 9,600 | 19,200 |

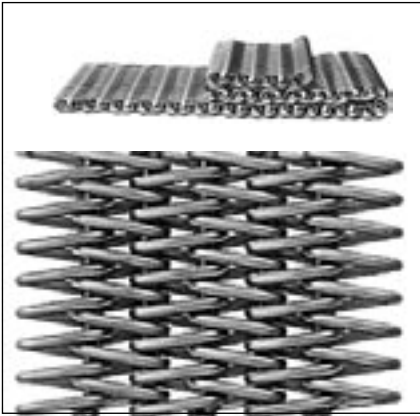
NOTE: The choker fitting must not be positioned against a load edge or directly on the triangle fitting.

Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to Effect of Angle chart page 10.

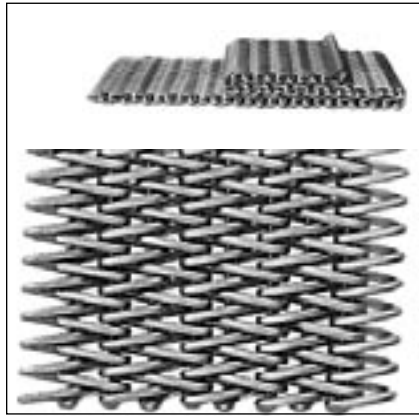
Roughneck WIRE MESH SLINGS

Select The Proper Mesh

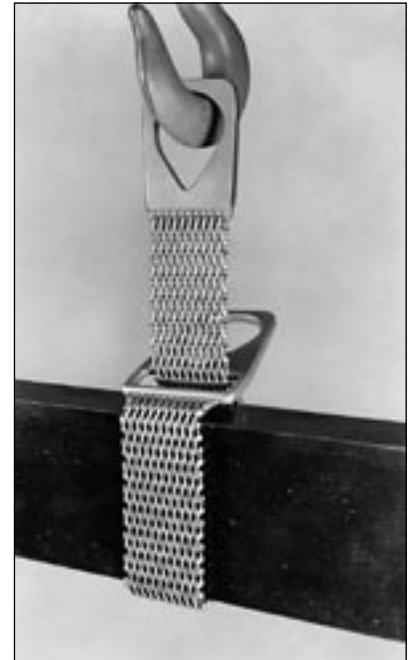
10 Gage - Heavy Duty



12 Gage - Medium Duty

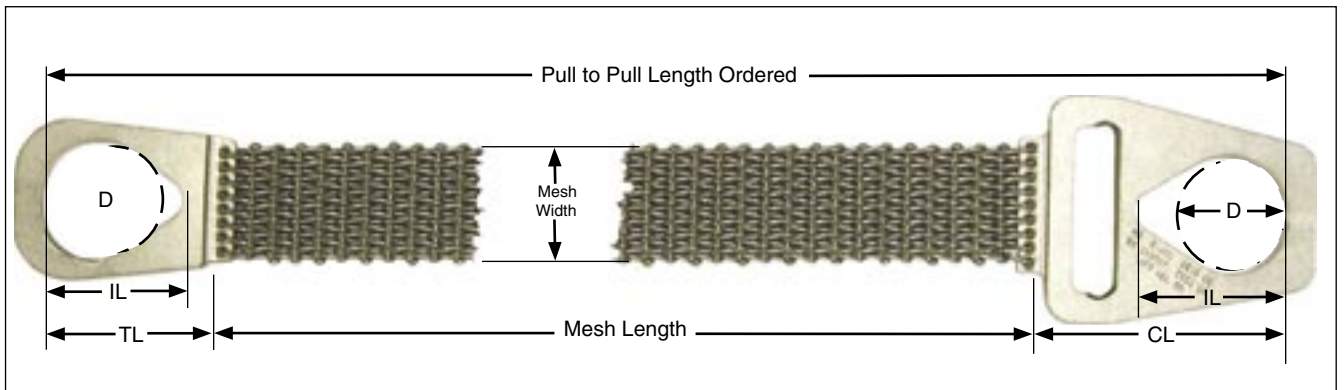


This single 4" wide mesh sling in a choker hitch at load center of gravity provides adequate stability for many structural steel loads.



Prompt Shipment or Repair Service by Experts

Wire mesh slings with normal usage will eventually need repair and parts replaced. This can be done for relatively small cost. *Lift-All* wire mesh slings that are repaired are guaranteed to meet or exceed original specifications. Five *Lift-All* factories are strategically located in the U. S. to insure prompt service. We repair all types and brands of mesh slings.



| Nom. Mesh Width (in.) | Terminal Dimensions (in.) | | | | Terminal Thickness (in.) | | Approx. Weight (lbs.) of 3 ft. Type 1 Slings | | Mesh Weight (Per ft. in lbs.) | |
|-----------------------|---------------------------|-------|--------|--------|--------------------------|-------|--|-------|-------------------------------|-------|
| | MW | D | IL | TL | CL | 10 GA | 12 GA | 10 GA | 12 GA | 10 GA |
| 2 | 2 | 3 | 3 7/8 | 5 5/8 | 1/2 | 1/2 | 6 | 5 | 1.3 | 1.1 |
| 3 | 2 1/4 | 3 3/8 | 4 3/8 | 6 1/4 | 1/2 | 1/2 | 8 | 8 | 1.9 | 1.8 |
| 4 | 3 | 4 | 5 | 6 3/4 | 1/2 | 1/2 | 10 | 10 | 2.5 | 2.3 |
| 6 | 3 1/2 | 4 1/2 | 5 5/8 | 7 3/4 | 1/2 | 1/2 | 16 | 14 | 3.9 | 3.4 |
| 8 | 4 1/2 | 6 | 7 1/2 | 9 | 1/2 | 1/2 | 22 | 21 | 5.1 | 4.5 |
| 10 | 4 3/4 | 6 1/4 | 8 | 10 7/8 | 1/2 | 1/2 | 28 | 26 | 6.4 | 5.6 |
| 12 | 5 | 6 1/2 | 8 5/8 | 11 3/8 | 1/2 | 1/2 | 34 | 32 | 7.6 | 6.8 |
| 14 | 5 | 6 1/2 | 8 3/4 | 12 3/4 | 1/2 | 1/2 | 40 | 37 | 8.9 | 7.9 |
| 16 | 5 1/4 | 7 | 9 1/8 | 14 1/4 | 3/4 | 1/2 | 57 | 38 | 10 | 9.0 |
| 18 | 5 1/2 | 7 1/2 | 9 3/4 | 15 3/4 | 3/4 | 1/2 | 67 | 44 | 11 | 10 |
| 20 | 5 3/4 | 7 3/4 | 10 1/8 | 17 | 3/4 | 1/2 | 77 | 51 | 13 | 11 |

Roughneck CHAIN MESH SLINGS

Specialty Slings for rugged applications.

Widely used in metalworking shops, and stevedoring where abrasive conditions or hot environments damage and destroy synthetic slings.

Features, Advantages and Benefits

Promotes Safety

- Each sling permanently stamped with capacity and serial number for traceability
- Steel construction resists abrasion and cutting
- Each sling proof tested and certified

Saves Time

- Width of mesh helps to balance and control loads
- End fittings fit most large crane hooks

Saves Money

- Alloy steel end fittings and Grade 80 Alloy chain resists abrasion and cutting for greater sling life
- Repairable - thus cost effective
- Low stretch and good flexibility reduces load damage
- Wide bearing area distributes load to help avoid load damage

Inspection Criteria for Roughneck Chain Mesh Slings

Remove sling from service if any of the following are visible:

- Wear, nicks, cracks, breaks, gouges, stretch, bends or weld spatter on chain or attachments
- Discoloration from excessive temperature
- Chain links and attachments won't hinge freely with adjacent links
- Visible distortion of either end fitting out of its plane
- Distortion or any collapse of eye width on either end fitting
- 15% reduction of original cross-sectional area of metal at any point of either end fitting
- Cracked end fitting

How to Order

Specify:

1. Chain size - ($\frac{7}{32}$ " , $\frac{9}{32}$ " , $\frac{3}{8}$ " or $\frac{1}{2}$ ")
2. Type 1 (Triangle & Choker) or Type 2 (Triangle & Triangle)
3. Number of parts of chain
4. Length - Feet (Bearing point to bearing point)

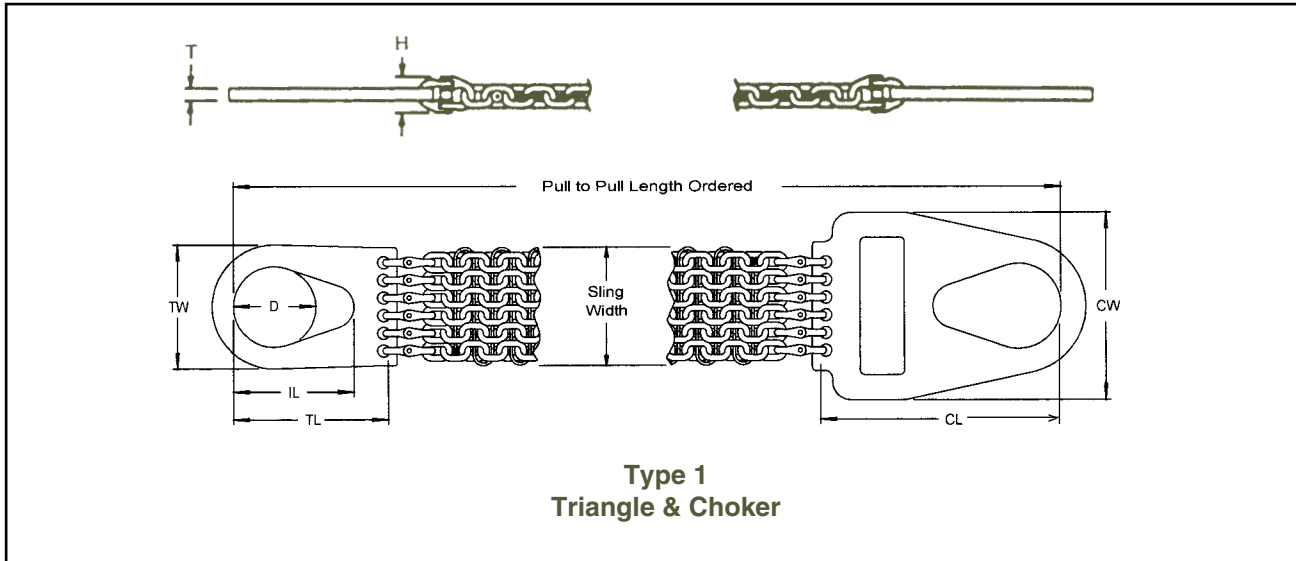
| Chain Size (in.) | Parts of Chain | Sling Width (in.) | Rated Capacity (lbs.)* | | |
|------------------|----------------|-------------------|------------------------|--------|--------|
| | | | Vertical | Choker | Basket |
| 7/32 | 3 | 1 1/2 | 5,000 | 5,000 | 10,000 |
| | 4 | 2 | 6,700 | 6,700 | 13,400 |
| | 5 | 2 1/2 | 8,400 | 8,400 | 16,800 |
| | 6 | 3 | 10,000 | 10,000 | 20,000 |
| 9/32 | 3 | 2 1/8 | 8,400 | 8,400 | 16,800 |
| | 4 | 2 3/4 | 11,000 | 11,000 | 22,000 |
| | 5 | 3 3/8 | 14,000 | 14,000 | 28,000 |
| | 6 | 4 | 16,800 | 16,800 | 33,600 |
| 3/8 | 3 | 3 1/4 | 17,000 | N/A | 34,000 |
| | 4 | 4 3/8 | 22,700 | N/A | 45,400 |
| | 5 | 5 3/8 | 28,400 | N/A | 56,800 |
| | 6 | 6 1/2 | 34,000 | N/A | 68,000 |
| 1/2 | 2 | 3 | 19,200 | N/A | 38,400 |
| | 3 | 4 1/2 | 28,800 | N/A | 57,600 |
| | 4 | 6 | 38,400 | N/A | 76,800 |

* **⚠ WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°.

Environmental Considerations

- Rated capacities of chain mesh are reduced at temperatures above 400°F. (See table page 84)
- Store in clean, dry area to avoid corrosive action

Roughneck CHAIN MESH SLINGS



| Chain Size (in.) | Parts of Chain | Sling Width (in.) | Terminal Dimensions (in.) | | | | | | | | 5 ft. Type 2 Weight (lbs.) | Weight per ft. (lbs.) |
|------------------|----------------|-------------------|---------------------------|-------|-------|-------|--------|-------|-----|-------|----------------------------|-----------------------|
| | | | D | IL | TL | TW | CL | CW | T | H | | |
| 7/32 | 3 | 1 1/2 | 2 3/4 | 4 1/8 | 6 3/4 | 4 3/4 | 9 | 7 1/8 | 3/8 | 1 1/4 | 10 | 1.3 |
| | 4 | 2 | 3 | 4 1/2 | 7 1/8 | 5 | 9 3/8 | 7 1/4 | 3/8 | 1 1/4 | 12 | 1.8 |
| | 5 | 2 1/2 | 3 1/2 | 5 1/4 | 8 | 5 1/2 | 10 1/8 | 7 3/4 | 3/8 | 1 1/4 | 14 | 2.2 |
| | 6 | 3 | 3 3/4 | 5 5/8 | 8 1/4 | 5 3/4 | 10 5/8 | 8 1/4 | 3/8 | 1 1/4 | 17 | 2.7 |
| 9/32 | 3 | 2 1/8 | 2 3/4 | 4 1/8 | 6 3/4 | 4 3/4 | 9 | 7 1/8 | 1/2 | 1 3/4 | 14 | 2.2 |
| | 4 | 2 3/4 | 3 | 4 1/2 | 7 1/8 | 5 | 9 3/8 | 7 1/4 | 1/2 | 1 3/4 | 18 | 3.0 |
| | 5 | 3 3/8 | 3 1/2 | 5 1/4 | 8 | 5 1/2 | 10 1/8 | 7 3/4 | 1/2 | 1 3/4 | 22 | 3.7 |
| | 6 | 4 | 3 3/4 | 5 5/8 | 8 1/4 | 5 3/4 | 10 5/8 | 8 1/4 | 1/2 | 1 3/4 | 26 | 4.5 |
| 3/8 | 3 | 3 1/4 | 3 1/2 | 5 1/4 | 6 7/8 | 5 | | | 3/4 | 2 1/4 | 30 | 4.4 |
| | 4 | 4 3/8 | 4 3/8 | 6 1/2 | 8 1/8 | 6 3/8 | | | 3/4 | 2 1/4 | 41 | 5.8 |
| | 5 | 5 3/8 | 4 3/8 | 6 1/2 | 8 3/8 | 7 3/8 | | | 3/4 | 2 1/4 | 55 | 7.3 |
| | 6 | 6 1/2 | 5 1/4 | 7 7/8 | 9 3/4 | 8 1/4 | | | 3/4 | 2 1/4 | 59 | 8.8 |
| 1/2 | 2 | 3 | 3 1/2 | 5 1/4 | 6 7/8 | 5 | | | 1 | 3 1/8 | 33 | 5.2 |
| | 3 | 4 1/2 | 4 3/8 | 6 1/2 | 8 3/8 | 6 3/8 | | | 1 | 3 1/8 | 50 | 7.7 |
| | 4 | 6 | 5 1/4 | 7 7/8 | 9 3/4 | 7 3/4 | | | 1 | 3 1/8 | 62 | 10 |

Note: Length tolerance ± 2 chain links so plane is maintained.

INSPECTION CRITERIA FOR WIRE MESH SLINGS

All slings should be inspected for damage prior to each use to assure that their strength has not been compromised. The following photos illustrate some of the common damage that occurs to indicate that the sling must be taken out of service.

THE DAMAGE: **Overloading / Uneven Loading**

WHAT TO LOOK FOR: Mesh does not lie flat, appears distorted and/or will not bend easily.

TO PREVENT: Do not load in excess of rated capacity. Load edges must be straight / flat and in contact with full width of mesh at bearing points.



THE DAMAGE: **Wear**

WHAT TO LOOK FOR: Flat areas on the individual wires. When wires have lost 25% or more of their original diameter, the sling must be taken out of service.

TO PREVENT: Do not drag sling on the ground and do not drag loads over slings. Pad high wear areas.

THE DAMAGE: **Corrosion / Heat Damage**

WHAT TO LOOK FOR: Areas of discoloration. Remove slings with wire diameter reduction of 15% or more. Slings exposed to temperatures of 550° F or more must be removed from service.

TO PREVENT: Hang slings for storage away from moisture. Do not use mesh slings above 550° F. Consider using stainless steel mesh.



THE DAMAGE: **Broken Weld or Brazed Joint**

WHAT TO LOOK FOR: A cracked or separation of the wire at the edge or in the body of the mesh.

TO PREVENT: Do not side load mesh. Tension on sling must be distributed evenly across the entire width of the mesh.

THE DAMAGE: **Distortion or Wear of End Fittings**

WHAT TO LOOK FOR: Fittings that do not lie flat or have obvious areas of wear.

TO PREVENT: Never lift with fitting against a load edge or set load directly onto sling. Reduce wear by keeping loads within the rated capacity of the sling.

