



# Roughneck Mesh Slings

## 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 |

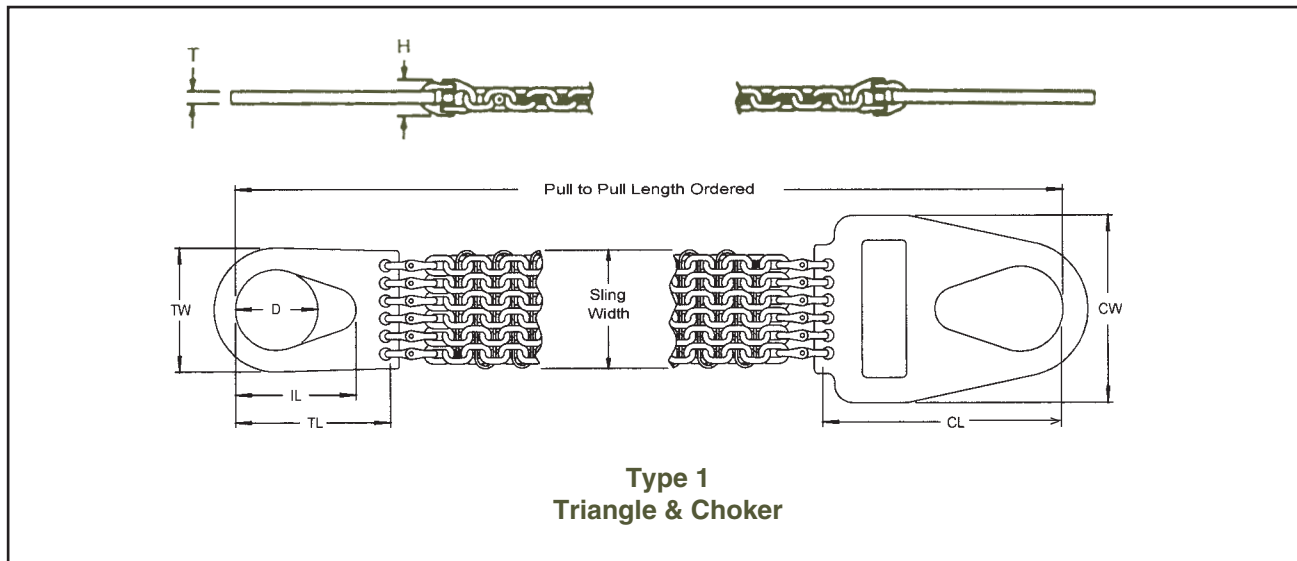
\*  **WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°.

#### Environmental Considerations

- Rated capacities of chain mesh are reduced at temperatures above 400°F. (See table page 98)
- Store in clean, dry area to avoid corrosive action

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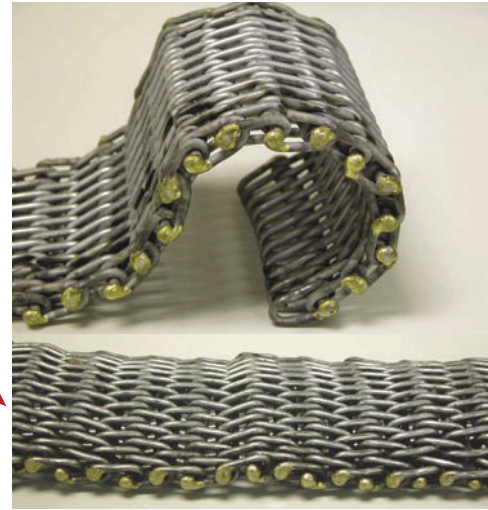
| Chain Size (in.) | Parts of Chain | Sling Width (in.) | Terminal Dimensions (in.) |       |       |       |        |       |     |       | 5 ft. Type 2 Weight (lbs.) | Weight per ft. (lbs.) |
|------------------|----------------|-------------------|---------------------------|-------|-------|-------|--------|-------|-----|-------|----------------------------|-----------------------|
|                  |                |                   | 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  $\pm 2$  chain links so plane is maintained.

## INSPECTION CRITERIA FOR WIRE MESH SLINGS

The following photos illustrate some of the common damage that occurs, indicating that the sling must be taken out of service.

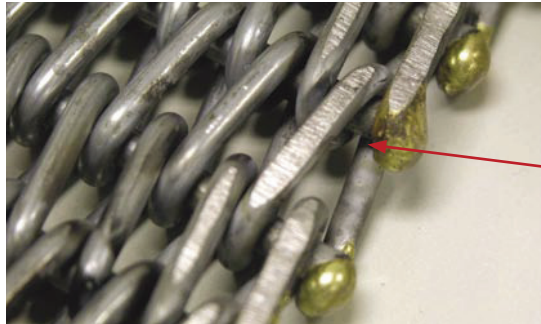
For inspection frequency requirements, see page 7.



### 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.

