

# TALURIT™

## Splicing Instructions

# 6. SPLICING INSTRUCTIONS

## FOR TAL-X AND TAL-X G FLEMISH EYE SLEEVES



TAL-X sleeves, black oxidized

TAL-XG sleeves, galvanized

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## Splicing Instructions

### 6.1 SELECTION TABLE OF FLEMISH EYE SLEEVES

**FOLLOWING FLEMISH EYE SLEEVES ARE INTENDED FOR USE ON STEEL WIRE ROPES MADE FROM CARBON STEEL:**

- TAL-X and TAL-X G

#### SELECTING THE CORRECT SLEEVE SIZE:

The correct size of sleeve is selected from the applicable table for each type of sleeves. Note applicable rope types in each table. All our ferrules comply with this quality specification and to other material specifications stated in the ruling standards.

Flemish Eye steel swaging sleeves are recommended for use with 6x19 or 6x37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC, or IWRC wire rope of imperial sizes.

We have made a special selection table for metric wire ropes of class 6x19 and 6x36, RRL FC or IWRC according to EN 12385-4. Maximum grade is to be 1960.

For other types of wire rope and higher tensile grade please contact our technical department.



TAL-X sleeves, black oxidized      TAL-X G sleeves, galvanized

Example of sleeve selecting chart

| Sleeve Size (inch) | Wire Rope Capacity Diameter (inch) |                                    | Die identification         |                               |           |
|--------------------|------------------------------------|------------------------------------|----------------------------|-------------------------------|-----------|
|                    | Fill factor (f=0.49-0.6)           |                                    | Dies marked                | Diameter after swaging (inch) |           |
|                    | Min. measured Rope diameter (inch) | Max. measured Rope diameter (inch) |                            | TAL-X                         | 1st stage |
| TAL-X<br>TAL-X G   |                                    |                                    |                            | 2nd stage                     |           |
| 1                  | 0.988                              | 1.051                              | 1 (1ST)<br>1 (2ND)         | 2.010<br>1.892                | 0-0,031   |
| 1 1/8              | 1.126                              | 1.181                              | 1 1/8 (1ST)<br>1 1/8 (2ND) | 2.256<br>2.087                | 0-0,035   |
| 1 1/4              | 1.213                              | 1.311                              | 1 1/4 (1ST)<br>1 1/4 (2ND) | 2.508<br>2.280                | 0-0,035   |
| 1 3/8              | 1.374                              | 1.445                              | 1 3/8 (1ST)<br>1 3/8 (2ND) | 2.758<br>2.470                | 0-0,039   |
| 1 1/2              | 1.500                              | 1.575                              | 1 1/2 (1ST)<br>1 1/2 (2ND) | 3.010<br>2.659                | 0-0,043   |
| 1 3/4              | 1.752                              | 1.839                              | 1 3/4 (1ST)<br>1 3/4 (2ND) | 3.510<br>3.049                | 0-0,047   |

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### 6.2 ASSEMBLY OF FLEMISH EYE SLEEVES

#### GENERAL INSTRUCTIONS FOR FORMING FLEMISH EYES

General instructions for making Flemish Eyes may vary depending on the wire rope manufacturer.

For ropes with an independent wire rope core (IWRC) separate the strands into two groups one with the core and three strands, the other with three strands only. The starting point of separating the strands will determine the length of the strand ends at the throat of the splice. If the strand ends are shorter than desired, re-lay the strands and start one strand to the left. To shorten the strand ends, move one strand to the right.

**1.** Select the correct sleeve and slip it on the wire rope.  
**IMPORTANT:** Check the wire rope size, select the correct size of sleeves and dies.

**2.** Divide the rope strands into two groups and un-lay the strands seven full lays, not counting the cut lay. Place the first group with the core on the right as you face the "Y" formed by the two legs. Seven lays of rope give maximum efficiency; there is no advantage in using more.

Note! If you are using a wire rope with fibre core, we recommend that the core is cut after re-laying and removed before splicing.

**3.** Cross the second group of 3 strands over the first group of 3 strands + the core. Then bring the 3 strand + core group over the 3 strand group and down into the eye formed until their strands conform to their natural configuration.

Note! Tests indicate reduced efficiency when using a 4/2 grouping of the strands as compared to a 3/3 grouping.

**4.** Continue to re-lay or rewind the 3-strand group around the core group with all strands in their natural spirals.



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## Splicing Instructions

### 6.2 ASSEMBLY OF FLEMISH EYE SLEEVES

**5.** Position the strand ends and core ends evenly around the "throat" of the splice.

**6.** Drive the sleeve over the strand ends until they bottom in the sleeve. Care must be taken to ensure the strands are not displaced and check that the strand ends are evenly distributed around the intact wire rope within the sleeve.

**7.** The peripheral length of a soft eye in a sling shall be at least four times the rope lay length. The peripheral length of a soft eye in a crane rope shall be at least six times the rope lay length.

**8.** Select the correct dies and swage according to the instructions on the following pages.



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### 6.3 SWAGING TAL-X AND TAL-X G FLEMISH EYE SLEEVES

#### BEFORE SWAGING:

##### CHECK DIES FOR WEAR

Before swaging, check your dies for wear and damage to be sure they are in good condition.

##### LUBRICATE DIES

Use TALUGREASE to lubricate dies or sleeves before swaging.

#### HOW TO SWAGE CARBON STEEL SLEEVES FOR FLEMISH EYES

These sleeves are designed to be used on 6x19 or 6x36 classification right regular lay, IPS, EIP, EEIP, I.W.R.C or FC wire rope manufactured to ISO specifications. There is also a table for metric wire ropes according to EN 12385-4, constructions 6x19, 6x26 and 6x36. This metric system has been validated according to EN 13411-3.

Note! There are two separate selection charts. One for the imperial system and one for the metric.

If other constructions of wire rope are to be used with these sleeves, sample assemblies should first be made and properly tested. Contact our technical department for more advice.

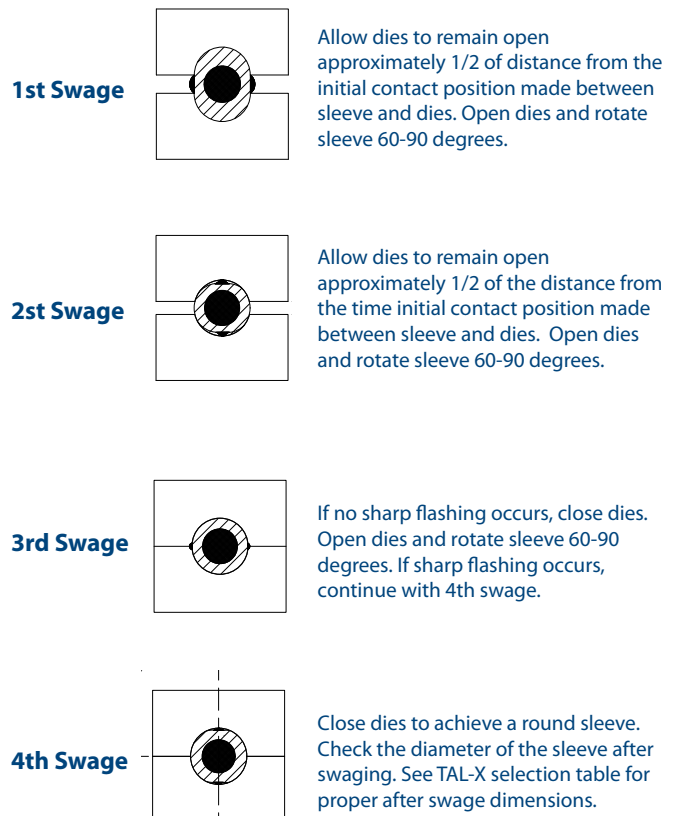


#### SWAGING INSTRUCTIONS:

##### SWAGING PROCEDURE FOR SLEEVE SIZE 1/4" THROUGH TO 1"

##### *Lubricate the dies before swaging!*

For these smaller sizes only tapered dies are used. Position the sleeve near the centre of the die-pocket – do not place it at either end of the tapered pocket. Do not allow sharp flashing to form.



##### Note:

*It could be necessary to apply further swaging operations to provide a smooth surface and achieve proper after swage dimensions. Open dies and rotate sleeve 60-90 degrees between the swaging operations. Dies must be fully closed before swaging is complete.*

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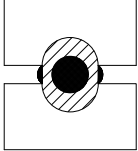
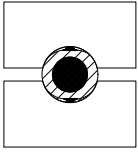
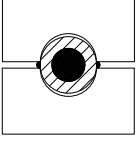
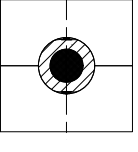
## Splicing Instructions

### 6.3 SWAGING TAL-X AND TAL-X G FLEMISH EYE SLEEVES

#### SWAGING PROCEDURE FOR SLEEVE SIZE 1 1/8" THROUGH TO 1 3/4"

Start the swaging procedure with 1st stage dies. After performing the swaging procedure in 1st stage dies continue with swaging the procedure in 2nd stage dies. Lubricate the dies before swaging.

##### 1st STAGE DIES

- 1st Swage**  Allow dies to remain open approximately 1/2 of the distance from the initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 2nd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 3rd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 4th/5th Swage**  If no sharp flashing occurs, close dies. Open dies and rotate sleeve 60-90 degrees between the swaging operations. If sharp flashing occurs continue with 5th swage.

##### 2nd STAGE DIES

Same procedure between 1st swage to 4th swage. A 5-6th swaging operation may be required to round sleeve. Open dies and rotate sleeve 60-90 degrees between the swaging operations. Check the diameter of the sleeve after swaging. See TAL-X selection chart for proper after swage dimensions.

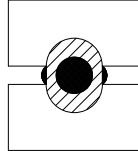
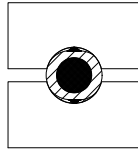
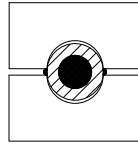
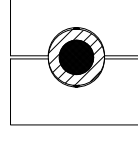
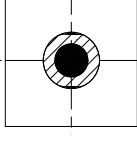
**Note:**

*It could be necessary to apply further swaging operations to provide a smooth surface and achieve proper after swage dimensions. Open dies and rotate sleeve 60-90 degrees between the swaging operations. Dies must be fully closed before swaging is complete.*

#### SWAGING PROCEDURE FOR SLEEVE SIZE 2" THROUGH TO 6"

Start the swaging procedure with 1st stage dies. After performing the swaging procedure in 1st stage dies continue with swaging the procedure in 2nd stage dies. Lubricate the dies before swaging.

##### 1st STAGE DIES

- 1st Swage**  Allow dies to remain open approximately 1/2 of the distance from the initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 2nd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 3rd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 4th Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 5th/6th Swage**  If no sharp flashing occurs, close dies. Open dies and rotate sleeve 60-90 degrees between the swaging operations. If sharp flashing occurs continue with 6th swage.

##### 2nd STAGE DIES

*See next page for instructions on how to continue the swaging operation with 2nd stage dies.*

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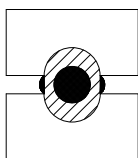
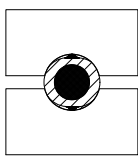
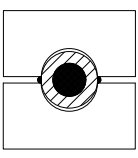
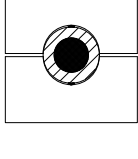
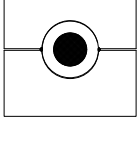
## Splicing Instructions

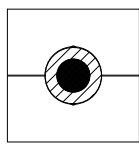
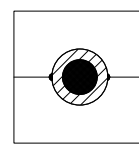
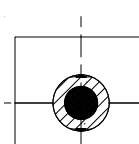
### 6.3 SWAGING TAL-X AND TAL-X G FLEMISH EYE SLEEVES

#### SWAGING PROCEDURE FOR SLEEVE SIZE 2" THROUGH TO 6"

Start the swaging procedure with 1st stage dies. After performing the swaging procedure in 1st stage dies continue with swaging the procedure in 2nd stage dies. Lubricate the dies before swaging.

#### 2nd STAGE DIES

- 1st Swage**  Allow dies to remain open approximately 1/2 of the distance from the initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 2nd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 3rd Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 4th Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 5th Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.

- 6th Swage**  Allow dies to remain open approximately 1/2 of the distance from the time initial contact position made between sleeve and dies. Open dies and rotate sleeve 60-90 degrees.
- 7th Swage**  If no sharp flashing occurs, close dies. Open dies and rotate sleeve 60-90 degrees. If sharp flashing occurs continue with 8th swage.
- 8th/9th Swage**  An 8-9th swaging operation may be required to achieve a round sleeve. Open dies and rotate sleeve 60-90 degrees between the swaging operations. Check the diameter of the sleeve after swaging. See TAL-X selection chart for proper after swage dimensions.

**Note:**

*It could be necessary to apply further swaging operations to provide a smooth surface and achieve proper after swage dimensions. Open dies and rotate sleeve 60-90 degrees between the swaging operations. Dies must be fully closed before swaging is complete.*



# TALURIT™

## Splicing Instructions

### 6.4 CHECKING AND MARKING AFTER SWAGING

#### CHECK THE CONDITION OF THE SWAGED SLEEVE

Check that the sleeve has been properly swaged and the wire rope is correct in alignment. Each sleeve shall be visually examined, measured, free from flaws and defects.

Do not allow sharp flashing to form. If excessive flash starts to form during the swaging procedure, do not close fully. Work the sleeve in subsequent swagings until the dies can be closed fully. Rotate the sleeve 60°-90° for the second swaging.

#### CHECK THE DIAMETER AFTER SWAGING

At each set-up the swaged sleeve shall be dimensionally checked to verify that it is within the diameter limits (and when applicable, also within the length limits) specified in the tables for sleeves. The diameter shall be checked of each swaged sleeve to verify that it is within the diameter limits.

#### MARKING OF SLEEVES AFTER SWAGING

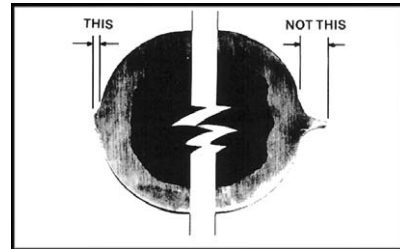
TAL-X Sleeves can be stamped for identification after swaging.

##### Please follow the directions below to avoid fractures:

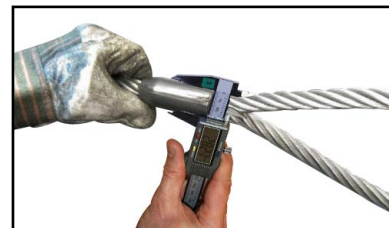
- Use round corner stamps to a maximum depth of 1.38mm.
- The area for stamping should be on the side of the sleeve in the plane of the sling eye, and no less than 7mm from either end of the sleeve.

The following maximum letter sizes are recommended:

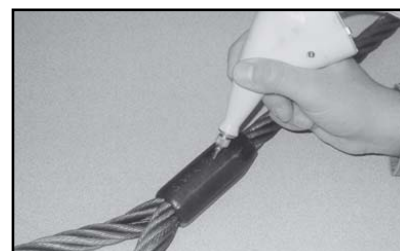
| For sleeve No. | Max. letter Height |
|----------------|--------------------|
| 5/16"-7/8"     | 3 mm               |
| 1" - 6"        | 5 mm               |



Flash should be a slight bump like the left side of the illustration, not sharp like the right side of the illustration.



Always check the diameter after swaging.



Marking of swaged sleeves should always be carried out according to ruling standards.



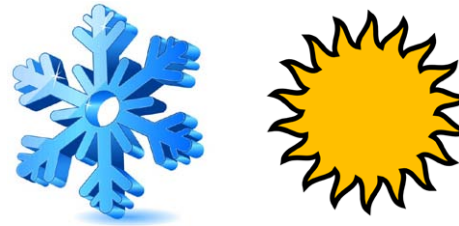
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## Splicing System Instructions

### 6.5 USAGE AND SCRAPPING

#### NON SUITABLE ENVIRONMENTS

Flemish Eye sleeve terminations shall normally not be exposed to temperatures outside the range -40°C to 100°C. See table below.

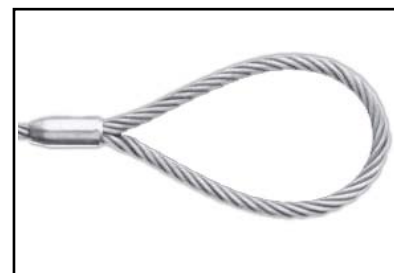


#### DE-RATED WORKING LOAD LIMIT OF SLINGS DUE TO TEMPERATURE (according to EN 13414-2)

| Termination Type | Sleeve material | Rope core | De-rated working load limit expressed as % of WLL of the sling |            |            |            |            |            |
|------------------|-----------------|-----------|--|------------|------------|------------|------------|------------|
|                  |                 |           | Temperature, T, C°   |            |            |            |            |            |
|                  |                 |           | -40<T≤100  | 100<T≤150  | 150<T≤200  | 200<T≤300  | 300<T≤400  | 400<T      |
| Flemish Eye      | steel           | Fibre     | 100  | Do not use | Do not use | Do not use | Do not use | Do not use |
| Flemish Eye      | steel           | Steel     | 100  | 100        | 90         | 75         | 65         | Do not use |

#### CHECK FOR DEFORMATION

Slings shall be taken out of use if their sleeves have been exposed to deformation or when the outer diameter has been reduced to less than 95% of the original diameter. If the sleeve has started to pull out from its position, it has to be taken out of service immediately.



Always check the sleeve for deformations.