



General Instructions for hand presetting of bite type Sleeves using Nelson Preset Tools

This document is intended for informational purposes only, and shall not take precedence over any specifications or regulatory requirements.

These instructions are intended for hand presetting of flareless bite type sleeves (MS21922) corrosion resistant steel and aluminum tubing. Other tubing materials and wall thicknesses, as well as fitting ends and sleeves, may require alternate methods for assembly. Users are urged to review their application and any associated specifications before continuing the presetting process.

Preparations:

Tube ends should be cut square within 0.5° and burrs removed from inside and outside of tube end. Chamfer breaks should not exceed 25% of tubing wall thickness.

Unless otherwise specified, the sleeve, mating threads, and working surfaces of the tooling should be lubricated using an approved system lubricant. Surfaces covered with dry film lubricant should not be coated with system lubricant.

The wrench used for presetting should be adequate to obtain necessary torque for the number of turns specified below in a smooth continuous motion. Use of a poor quality or small wrench may result in nut deformation, wrench slippage, or injury to the operator.

Presetting:

After hand tightening the assembly and with the tube end firmly seated against the tube stop (if a mandrel is being used, be sure that the mandrel is also properly seated), tighten the nut until the cutting edge of the sleeve grips the tube sufficiently to prevent rotation of the tube with thumb and fingers. From this point, tighten the nut the specified number of turns in the following tables.

Suggested number of turns for presetting sleeves using mandrels

Tube Size	.125	.188	.250	.312	.375	.500	.625	.750	1.00	1.25	1.50
# of Turns	1 1/6	1 1/6	1	1	5/6	5/6	2/3	2/3	2/3	2/3	2/3

Suggested number of turns for presetting sleeves 304 1/8 hard Cres tubing (without mandrels)

Tube Wall	Tube Size .125	Tube Size .188	Tube Size .250	Tube Size .312	Tube Size .375	Tube Size .500	Tube Size .625	Tube Size .750	Tube Size 1.00
.012	1 1/6								
.018	1 1/6	1 1/6	1 1/6	1 1/6					
.020	1 1/6	1 1/6	1 1/6	1 1/6	*				
.022	1 1/6	1 1/6	1 1/6	1 1/6	1 1/6				
.025	1 1/6	1 1/6	1 1/6	1 1/6	1 1/6	*	*		
.028	1 1/6	1 1/6	1	1 1/6	1	1 1/6	1 1/6	*	
.035		1 1/6		1	1	1 1/6	1 1/6	1 1/6	*
.042				1	1	1	1 1/6	1 1/6	1 1/6
.049				1	5/6	1	1	1	1 1/6
.058						5/6	1	5/6	1
.065						5/6	5/6	5/6	1
.072								5/6	5/6
.083									5/6

* use a mandrel for this and thinner wall tubing

Suggested number of turns for presetting flareless sleeves on aluminum alloy and annealed corrosion resistant tubing (without mandrels)

Tube Wall	Tube Size .125	Tube Size .188	Tube Size .250	Tube Size .312	Tube Size .375	Tube Size .500	Tube Size .625	Tube Size .750	Tube Size 1.00
.018	1 1/6	1 1/6							
.020	1 1/6	1 1/6							
.022	1 1/6	1 1/6	*						
.025	1 1/6	1 1/6	1 1/6	*					
.028	1 1/6	1 1/6	1 1/6	1 1/6	*	*			
.035		1	1 1/6	1 1/6	1 1/6	1 1/6	*	*	
.042			1	1	1 1/6	1 1/6	1 1/6	1 1/6	*
.049				1	1	1	1 1/6	1 1/6	1 1/6
.058				1	5/6	1	1	1	1 1/6
.065					5/6	5/6	1	1	1 1/6
.072								5/6	1
.083								5/6	5/6
.095								5/6	

Inspection:

This preset method is intended to produce a ring cut depth of .002' in minimum with MS21922 sleeves. The sleeve shall not exhibit cracks after the presetting process the sleeve may rotate around the tubing, and may move longitudinally. Unless otherwise specified longitudinal movement should not exceed .020" (unless otherwise specified).

Installation

Seat the tube in the mating part prior to engaging coupling nut threads by hand. Tighten the nut using a torque wrench or other approved method. If joint does not seal properly, the assembly should be removed and inspected. **Do not over-torque the assembly to stop leakage.**

References:

AS18280 – Fittings, 24° Cone Flareless, Fluid Connection, 3000 psi
AS18280/1- Sleeve, Bite Type, 24° Cone Flareless Fitting, 3000 psi
AS5148 – Assembly, Installation and torque for flareless and straight thread fluid fittings and tube assemblies