

# Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>Swagelok Company</b>
<b>Address</b>	29500 SOLON ROAD, Solon, OH, 44139-3492, United States of America
<b>Place of Production</b>	Swagelok Company 29500 SOLON ROAD, Solon, OH, 44139-3492, United States of America
<b>Type</b>	Tube Fittings
<b>Description</b>	Two Ferrule Flareless Mechanical Grip Tube Fittings. Gaugeable Tube Fittings, in accordance with Swagelok Catalogue MS-01-140.
<b>Trade Name</b>	Swagelok Mechanical Tube Fittings
<b>Application</b>	Marine,Offshore and Industrial Applications.
<b>Specified Standard</b>	LR Rules and Regulations for the Classification of Naval Ships 2020 LR Rules and Regulations for the Classification of Ships 2019 LR Rules and Regulations for Offshore Units 2020

1330 Enclave Parkway, Houston, Texas, 77077,  
United States of America

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**Gopal Nair**

Americas Design Appraisal Manager to  
Lloyd's Register Quality Assurance Inc  
A member of the Lloyd's Register group

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### Ratings

Carbon & Stainless Steel  $\frac{1}{16}$ "to 2"  
2507 Duplex  $\frac{1}{4}$ "to  $\frac{3}{4}$ "  
400/R-405 Alloy -Monel  $\frac{1}{8}$ "to 1"  
360 and /or 377 Brass  $\frac{1}{8}$ "to 1  $\frac{1}{8}$ "  
Alloy 20 (C-20)  $\frac{1}{4}$ "to  $\frac{1}{2}$ "  
Alloy C-276 (Hastelloy C)  $\frac{1}{4}$ "to  $\frac{1}{2}$ "  
Alloy 600(Inconel)  $\frac{1}{4}$ "to  $\frac{1}{2}$ "  
Alloy 800(Inconel)  $\frac{1}{4}$ "to  $\frac{1}{2}$ "  
Titanium  $\frac{1}{4}$ "to  $\frac{1}{2}$ "

### Additional Tests

ASTM F1387 -99 shock tests  
Burst test dated 9 March 2020

### Other Conditions

The fittings are to be assembled in accordance with the manufacturer's instructions.  
The manufacturer's recommendations with respect to rated temperature, pressure and fluid compatibility are to be strictly adhered.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Quality Assurance Inc of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. LR2002498TA-01 and its supplementary Type Approval Terms and Conditions form part of this Certificate.