

PRECISION CARBON STEEL TUBES FOR HYDRAULIC LINE SERVICE

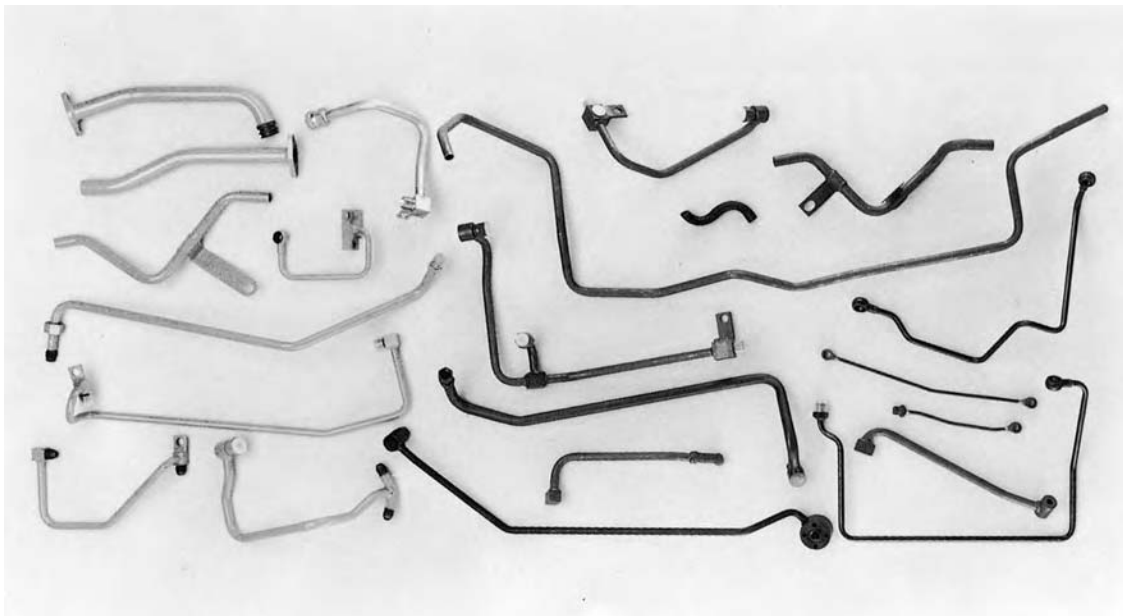


SANKIN CORPORATION
TUBE DIVISION

**PRECISION
CARBON STEEL TUBE
FOR OIL PRESSURE
PIPING OIL 油管配管用精密炭鋼鋼管**

Specifications of JAPAN oil and Air Pressure Industrial Association

日本油空壓工業會規格



Preface

Since the establishment of our company as pioneer in tube business in 1946, we have developed many products and techniques.

Recently, the business field has tendency to develop high-performance, labor-saving oil pressure machinery, so the demand for the tube (OST) for the use in oil pressure piping is increasing because the tube is the central function of oil pressure machinery.

To meet the requirements from the customers, we apply our long years, experience and special skills of manufacturing precision tubes to developing reliable products, and we have enjoyed a good reputation for a long time.

序言

敝公司自1946年創業以來做鋼管開拓者而開發了數多新製品。在另一方面，最近的產業界，因為追求高度機能，省力化的油壓機械有方面顯著發展，因此油壓配管用TUBE(OST)的需求有增多，因為後者是油壓機械主宰油壓機械的中心機能。

敝社為配合這些期望，應用活用多年的精密鋼管的特殊製造技術和經驗而開發客戶大家能放心使用的產品且經過長期的交貨，享受良好的評估。

Quality:

*The material we use is the raw tube made under full quality guaranty system.

*After the cool drawing process, the tube is applind with the thermal treatment in the continual nonoxidizing furnace, so the inside and outside of tube is very clean.

*The vortex checking device is used to examine the whole finished products.

*In addition to the rust-resistant treatment, the poly cap is also used to seal the tube end.

*It has excellent property for bending and expanding brocess (a bout HrB60. Hv107)

Characteristics:

*With the wide range and various size of stock, and using the system of prompt delivery.

*Other size can be made according to customer's demand.

*the tube thickness can be judged from the color of the poly cap.

品質：

*使用有充份保證體制下所製造的原管做素材。

*冷間拉拔加工後，在連續無氧化爐做熱處理，管內外俱清淨。

*用渦流探傷設備，檢查全製品。

*除鏽處理外，使用Poly-cap（塑膠蓋）密蓋管端。

*具有優越的彎曲加工，管擴展加工性（HrB 60, Hv 107左右）

特長：

*範圍廣泛，且豐富的大小尺寸之在庫，採用即時交貨體制。

*按照所需要之需求製造其它大小尺寸。

*由Poly cap（塑膠蓋）的顏色可判別管壁厚度。

Different poly cap color for different tube thickness tube thickness
(塑膠蓋)

依照管壁厚度Poly-cap的顏色分別

Tube thickness管壁	1.0	1.2	1.5	2.0	2.5	3.0	3.5
Poly cap color塑膠蓋顏色	white 白	green 綠	orange 橙	blue 青	yellow 黃	light purple 淺紫	pink 粉紅

SPECIFICATION 規格

*CHEMICAL COMPOSITION 化學成分

Class 種類	Symbol 記號	化學成分 Chemical composition						Mother tube 原管
		C	Si	Mn	P	S	Cu	
1種	OST-1	≤0.35	≤0.35	≤0.25- 0.60	≤0.040	≤0.040	—	electric seamed tube or seamless tube 電縫管或無縫管
2種	OST-2	0.08-0.18	0.10-0.35	≤0.30- 0.60	≤0.035	≤0.035	≤0.20	Seamless tube 無縫管

*MECHANICAL PROPERTIES 機械的性質

Class 種類	Symbol 記號	T.S. kgf/mm 引張強度	Y.P. kgf/mm 降伏點	El.伸長 11號 試驗片%	Bending Test 彎曲試驗		Flaring Test 推展（擴 展）試驗
					Bending Angle 彎曲角度	Inside Radius 內側半徑	
1種	OST-1	≤45	≥18	≥35	180°	4×O.D.	1.2×O.D.
2種	OST-2	≤45	≥20	≥35			

*As heat treated after cold drawn.

*The minimum elongation value for the tube with outer diameter of 10-20mm is obtained by the listed elongation minus 5% and 8% separately.

*外徑10mm以上20mm未滿之管的伸長最小值是對表記伸展長度各減去5%及8%而所得的。

*TOLERANCE OF DIMENSIONS 尺寸容許誤差

外徑O.D.(mm)			厚度W.T.(mm)			長度L.(mm)	
≤25	25<~≤38	38<~≤50	1.0≤~<1.5	1.5≤~<2.0	≥2.0	≤6.000	>6.000
±0.10	±0.15	±0.20	±15%	±0.20	±10%	-0.+10	-0.+15

AVAILABLE SIZE AND WEIGHT (kgf/m)

OST標準尺寸及重量表

外徑 W.T.(mm)厚度 O.D.(mm)	1.0	1.2	1.5	2.0	2.5	3.0	3.5
4.0	0.074						
6.0	0.123		0.166	0.197			
8.0	0.173	0.260	0.240	0.296			
10.0	0.222	0.320	0.314	0.395	0.586		
12.0	0.271	0.408	0.388	0.493	0.771	0.888	
15.0			0.499	0.641	0.832	0.962	
16.0			0.536	0.690	0.956	1.11	
18.0			0.610	0.789	1.08	1.26	
20.0		0.556	0.684	0.888	1.20	1.41	
22.0			0.758	0.986	1.39	1.63	
25.0			0.869	1.13	1.57	1.85	1.86
28.0				1.28	1.70	2.00	2.11
30.0				1.38		2.37	2.29
35.0							2.72

*The length of the stock always available is 4,000mm of regular size.

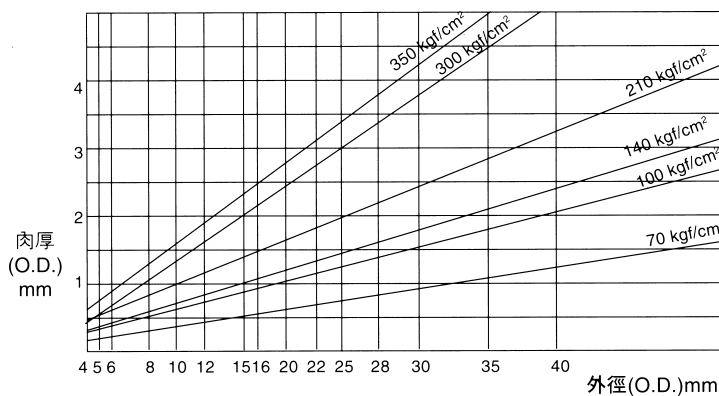
*As heat treated after cold drawn

*經常在庫保有的尺寸的長度為4.000mm的定尺寸。

REFERENCE參考資料

*Calculation of ser ice
pressure and tube size

*使用壓力對管尺寸計算圖



*Related specification

*關連規格

Service pressure 使用壓力 $\leq 140 \text{ kgf/cm}^2$	Allowable stress 使用壓力 $\geq 210 \text{ kgf/cm}^2$
$\text{W.T.} = \frac{\text{O.D.} \times P}{2.S}$	$\text{W.T.} = \frac{\text{O.D.} \times P}{2.S + P}$
肉厚 W.T.(mm), 外徑 O.D.(mm), P(kgf/cm ²) 許容應力 $S = Y.P. \times 1/2 = 1.000 \text{ kgf/cm}^2$	

For JOHS 102 oil pressure piping 日本油空壓工業會規格 JOHS 102油壓配管用	OST-1	OST-2
For JIS B2351 in-put tube connecting 日本工業規格 JIS B2351咬進式管連接用	STPS-1	STPS-2