

# COLD DRAWN STEEL TUBES

(Hydraulic & Telescopic Cylinders)

 **DONGYEUN**

# ■ Introduction

DONGYEUN Steel manufactures cold-drawn steel tubes for hydraulic cylinders. DONGYEUN Steel is one of the largest manufacturers of hydraulic cylinders in the world.

Our production capability covers all sizes between OD 50mm to 250mm WT 5mm to 20mm.

## ■ DOM & CDS Tubes

### – General Specification

#### \* Mechanical Grade

Grade	C	Si	Mn	P	S	Al	Nb	V
STKM13C	0.25	0.35	0.3~0.9	0.04	0.04	-	-	-
SAE1020	0.18~ 0.23	-	0.3~0.6	0.035	0.035	-	-	-
SAE1026	0.22~ 0.28	-	0.6~0.9	0.035	0.035	-	-	-
E355	0.22	0.55	1.60	0.025	0.025	0.02 min	-	-

#### \* Mechanical properties

Grade	T.S (MPa)	Y.S (MPa)	E.L (%)	Hardness (HRB)	Impact Value (at -20 °C in Jules)
					Min. average absorbed energy
STKM13C	510	380	15	85	-
SAE1020	520	470	15	85	-
SAE1026	600	500	15	85	-
E355	620	520	15	85	27

a) Charpy V notch specimen size : 10x10mm, Sub-size can be tested(10x7.5, 10x5, 10x2.5)

# ■ DOM & CDS Tubes

## – General Specification

### \* Technical Characteristics

CDS Technical Characteristics		
OD	Tolerance	According to EN10305-1
ID	Tolerance	According to below table.
Surface defects		Max 0.3mm
Straightness		1.0mm/1000mm
*Eccentricity		Refer to below content.

### ▷ Eccentricity

The eccentricity is obtained from following formula and maximum eccentricity is 8% (in case WT<15)

10% (in case WT≥15)

$$\frac{e.max. - e.min.}{e.max. + e.min.} = E$$

e.max. = maximum wall thickness

e.min. = minimum wall thickness

DOM Technical Characteristics		
OD	Tolerance	According to EN10305-2
ID	Tolerance	According to below table.
Surface defects		Max 0.3mm
Straightness		0.8mm/1000mm
*Eccentricity		5% of wall thickness

Telescopic cylinder Technical Characteristics		
OD/ ID	Tolerance	According to customer's requirement.
ID Roughness		Ra 1.6µm, Rt 16µm max.
Surface defects		Max 0.3mm
Straightness		0.5mm/1000mm
*Eccentricity		5% of wall thickness

# ■ DOM & CDS Tubes


## - General Specification

### \* Size & Tolerance

mm	5	7.5	10	12.5	15	17.5	20
50	DOM						
60	DOM : -0.2/-0.5						
80	CDS : -0.4/-0.7						
90	DOM	DOM	CDS	CDS			
100	DOM	DOM	DOM	CDS			
110	DOM	DOM	DOM	CDS			
120	DOM : -0.3/-0.6						
130	CDS : -0.5/-1.0						
140	DOM	DOM	DOM	CDS	CDS		
150	DOM	DOM	DOM	CDS	CDS		
160		DOM	DOM	DOM	CDS		
170		DOM	DOM	DOM	CDS	CDS	
180		DOM : -0.4/-0.9					
190		CDS : -0.7/-1.4					
200		DOM	DOM	DOM	CDS	CDS	
210		DOM	DOM	DOM	CDS	CDS	
220			DOM	DOM	CDS	CDS	
230			DOM : -0.4/-0.9				
240			CDS : -0.8/-1.4				
250			CDS	CDS	CDS	CDS	

\* Tolerances can be changed as customers' requirements.

 \* DOM TUBE

 \* CDS TUBE

# ■ DOM & CDS Tubes

## - General Specification

\* Applications (Hydraulic cylinders)



▶ Excavator / Fork lift / Bulldozer / Payloader etc..



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▶ Boom arms



▶ Dump truck (Telescopic cylinder)