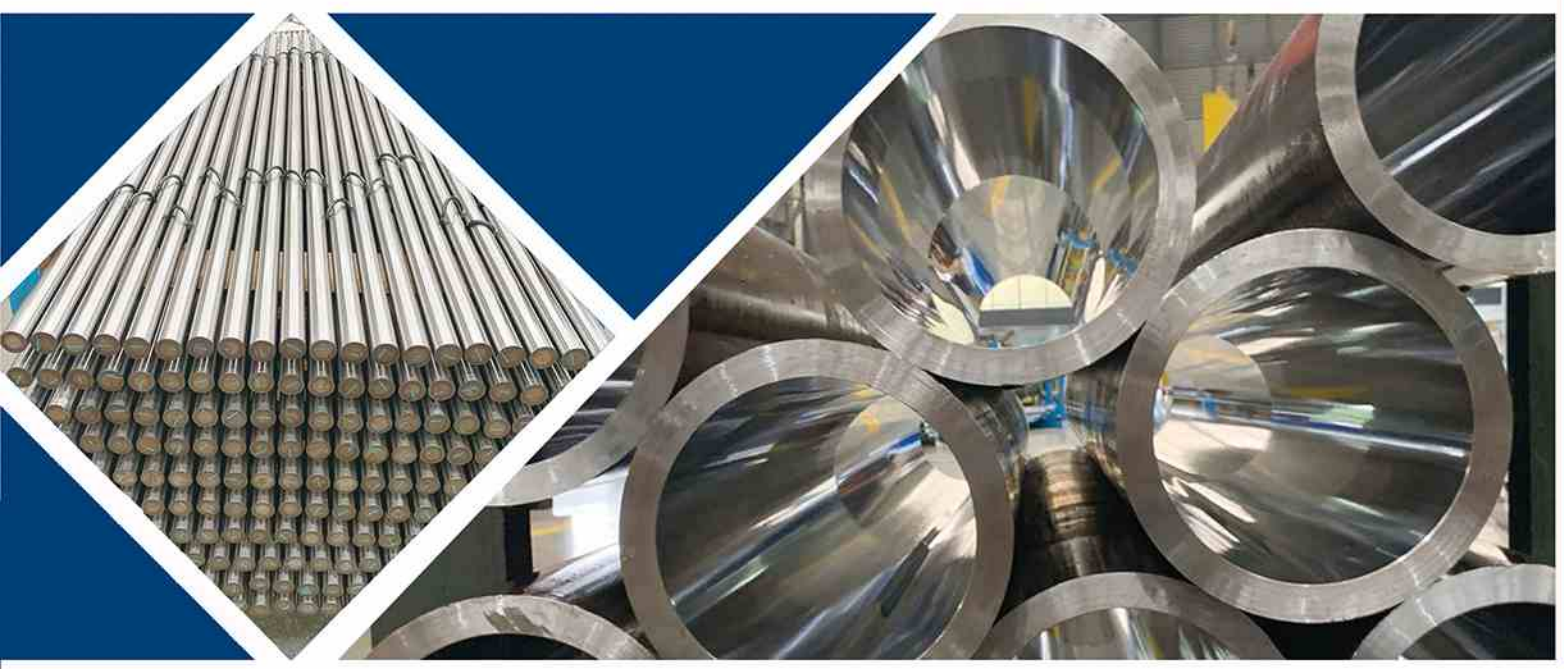
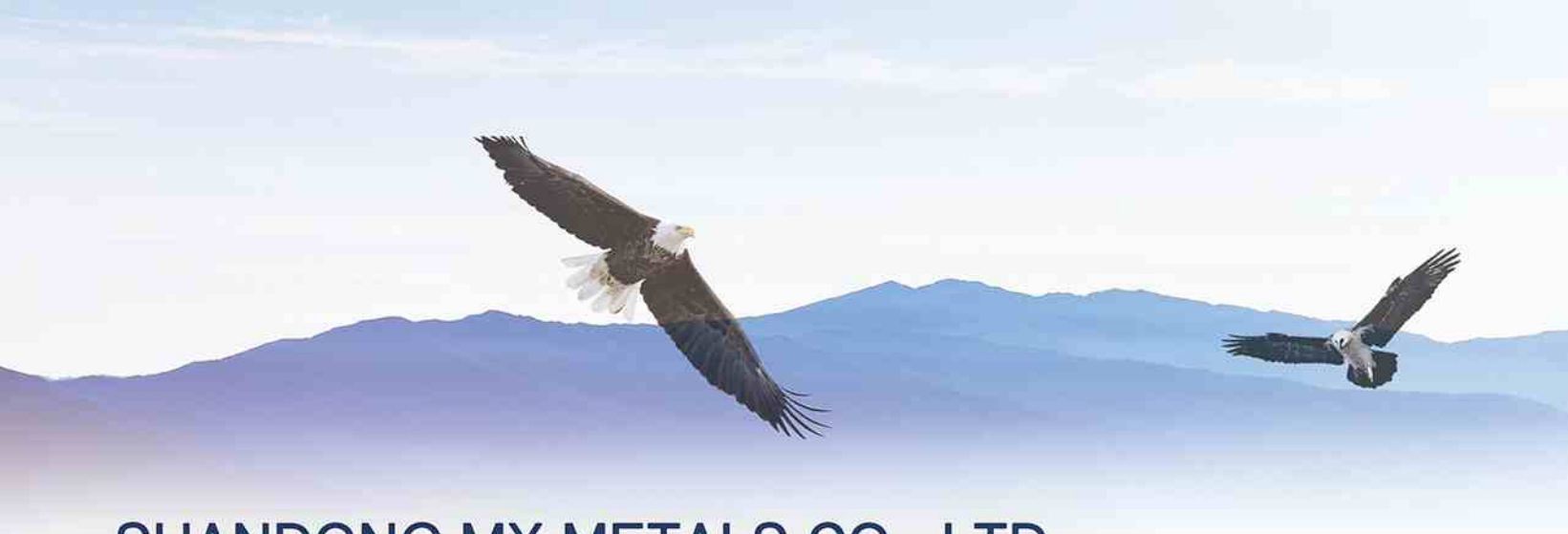
MX METALS



SHANDONG MX METALS CO., LTD



SHANDONG MX METALS CO., LTD

INTRODUCTION

SHANDONG MX METALS CO., LTD is a professional manufacturer of honed tube/skived and roller burnished tube & hard chrome plated rod since 2003. We have sophisticated machining equipment, strong technical strength and advanced technology. Our quality is ensured. Upholding a refinement approach to stringently safeguard its quality management, MX Metals prides itself in presenting the best quality service to the hydraulic and pneumatic industry. It is fully convinced that outstanding quality is the best guarantee for marketing the company's products across the world. MX Metals was accredited with CQC ISO 9001 certification in 2005. Now we enlarge our exporting business scope to big cylinder tube(hot rolled seamless honed tube), big piston rod, aluminum cylinder tube, precision cold rolled/cold drawn seamless tube, hydiaulic cylinder...

We are cooperating with Italy, South Korea, Australia, America, Turkey, Russia, UAE, India, Saudi Arabia... more than 20 countries. Our exporting sales has reached to 30 million dollars per year. We are willing to cooperate with people from all circles based on outstanding products and honest business to seek for mutual development. We warmly welcome our friends from all over the world to visit us.

Honed Tube / Skived and Roller Burnished Tube

- **Size:** ID 30 - 500 mm
- **Material:** ST52 BK+S, E355+SR, EN1.058, S355J0H, ST45, SAE1020, SAE1026, STKM13C, AISI304, AISI316, SCM440, AISI4140
- **Standard:** DIN2391 EN10305-1
- **Length:** 500 - 10000 mm



SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Delivery Condition	Cold Finished (Hard) (BK)		Cold Drawn and Stress-relieved (BK+S) (SR)		
Steel Grade	Tensile Strength (Mpa)	Elongation (%)	Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation (%)
ST45	⩾ 550	⩾ 5	⩾ 520	⩾ 375	⩾ 15
ST52/E355*	⩾ 640	⩾ 5	⩾ 600	⩾ 520	⩾ 14
SAE1026	⩾ 640	⩾ 5	⩾ 600	⩾ 510	⩾ 12

*Low Temperature Impact Test Upon Request (27J/-20 °C)

Size of ID (mm)	ID Tolerance (mm)			Tolerance of Wall Thickness
	H8	H9	H10	
30	+0.033 0	+0.052 0	+0.084 0	<120mm(OD) ± 5% ⩾ 120mm up to 210mm ± 7.5% >210mm ± 10%
>30-50	+0.039 0	+0.062 0	+0.100 0	
>50-80	+0.046 0	+0.074 0	+0.120 0	
>80-120	+0.054 0	+0.087 0	+0.140 0	
>120-180	+0.063 0	+0.100 0	+0.160 0	
>180-250	+0.072 0	+0.115 0	+0.185 0	
>250-315	+0.081 0	+0.130 0	+0.210 0	
>315-400	+0.089 0	+0.140 0	+0.230 0	

Honed Tube / Skived and Roller Burnished Tube

Processing	ID(mm)	Length	Straightness	ID Tolerance	ID Roughness
Cold-rolled	30-100	⩽ 12m	0.5/1000 Max	H8-H10	0.4-1.6μm
Cold-drawn	30-250	⩽ 12m		H8-H10	0.8-1.6μm
Honed	40-500	⩽ 12m		H8-H9	0.4-0.8μm
Skived and Roller Burnished	50-250	⩽ 9m		H8	0.1-0.2μm



SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Standard Specification											
I.D.mm	O.D.mm	W.T.mm	kg/m	I.D.mm	O.D.mm	W.T.mm	kg/m	I.D.mm	O.D.mm	W.T.mm	kg/m
30	36	3	2.44	90	114	12	30.18	160	170	5	20.34
40	50	5	5.55	100	108	4	10.26	160	172	6	24.56
40	55	7.5	8.79	100	114	7	18.47	160	180	10	41.92
40	58	9	10.88	100	121	10.5	28.61	160	184	12	50.9
50	60	5	6.78	100	127	13.5	37.79	160	194	17	74.2
50	63	6.5	9.06	110	120	5	14.18	180	192	6	27.52
50	65	7.5	10.63	110	126	8	23.28	180	194	7	32.28
50	70	10	14.8	110	133	11.5	34.46	180	200	10	46.86
55	65	5	7.4	110	140	15	46.42	180	203	11.5	54.31
55	70	7.5	11.56	120	140	10	32.06	180	219	19.5	95.93
60	70	5	8.01	120	146	13	42.64	200	216	8	41.03
60	75	7.5	12.48	125	135	5	16.03	200	219	9.5	49.08
63	69	3	4.88	125	140	7.5	24.51	200	232	16	85.22
63	73	5	8.38	125	152	13.5	46.11	200	245	22.5	123.45
63	76	6.5	11.14	125	159	17	59.53	220	250	15	86.93
63	83	10	18	140	152	6	21.6	220	273	26.5	161.09
70	83	6.5	12.26	140	159	9.5	35	250	270	10	64.12
70	86	8	15.39	140	163	11.5	42.96	250	299	24.5	165.8
80	86	3	6.14	140	168	14	53.17	280	325	22.5	167.84
80	90	5	10.48	140	178	19	74.5	300	325	12.5	96.33
80	95	7.5	16.18	140	180	20	78.91	300	351	25.5	204.68
80	102	11	24.68	150	160	5	19.11	300	377	38.5	321.38
80	108	14	32.45	150	163	6.5	25.09	320	351	15.5	128.24
90	100	5	1.71	150	170	10	39.46	320	377	28.5	224.93
90	105	7.5	18.03	150	175	12.5	50.09	400	426	13	132.4
90	108	9	21.97	150	180	15	61.03	400	480	40	434.02

*Low Temperature Impact Test Upon Request (27J/-20°C)

SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

Hard Chrome Plated Steel Rod / Hollow Rod

- **Diameter:** 20 - 300 mm
- **Material:** JIS S45C, SAE1045, DIN CK45, EN C45E, ASTM 1045, 42CrMo4, AISI4140 20MnV6, AISI431
- **Tolerance:** ISO f7, f8
- **Chrome Layer Thickness:** min. 20 µm
- **Surface Roughness:** max. 0.2 µm
- **Surface Hardness:** min. HV 850
- **Straightness:** max. 0.2/1000 mm
- **Roundness:** Half of the diameter tolerance



SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Chemical Composition

Material	C%	Mn%	Si%	S%	P%	V%	Ni(%)	Cr%
CK45	0.42-0.50	0.50-0.80	⩽ 0.40	⩽ 0.035	⩽ 0.035			
42CrMo4	0.38-0.45	0.60-0.90	0.15-0.40	⩽ 0.03	⩽ 0.03			0.90-1.20
20MnV6	0.16-0.22	1.30-1.70	0.10-0.50	⩽ 0.035	⩽ 0.035	0.10-0.20		
431	0.12-0.22	⩽ 1.5	⩽ 1	⩽ 0.03	⩽ 0.04		1.5-2.5	15-17



SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

Hard Chrome Plated Steel Rod / Hollow Rod

Mechanical Property

Material	Tensile/Mpa (min)	Yield/Mpa (min)	Elongation/% (min)	Charpy Impact	Delivery State
CK45	610	355	15	＞39J	Hot rolled
CK45	800	630	20	＞41J	Q+T
20MnV6	750	590	12	＞40J	Hot rolled
42CrMo4	980	850	14	＞47J	Q+T
431	800	600	10		



SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Delivery Condition	Hard Chrome Plated
	Induction Hardened
	Quenched & Tempered
	Induction Hardened with Q+T

Corrosion Resistance	Min.120 hours NSS Rating 9 (ISO 9227)
Surface Hardness of Induction Hardened	55-60 HRC
Depth of Induction Hardened	1.2 – 2.5 mm
Package	Carboard Tubes; Recyclable Plastic Sleeves; Wooden cases







SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Hot Rolled Big Cylinder Tube / Big Piston Rod

◆ **Size:** ID 200 - 1400 mm

◆ **Material:** CK45, St52, E355, EN1.058, S355

◆ **Length:** Up to 16000 mm







◆ **Size:** Up to 1300 mm

◆ **Material:** JIS S45C, SAE1045, DIN CK45, EN C45E, ASTM 1045, 42CrMo4, AISI4140 20MnV6, AISI431

◆ **Length:** Up to 14000 mm







SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Aluminum Alloy Cylinder Tube

- **Material:** 6063 T5
- **Inner Diameter:** 16 - 320 mm
- **Inner Diameter Tolerance:** H9-H11
- **Straightness Tolerance:** ⩽1/1000 mm
- **Surface Roughness:** Ra<0.6
- **Thickness Of Internal and External Film:** ⩾15 μm
- **Hardness Of Surface Oxide Film:** ⩾400 HV

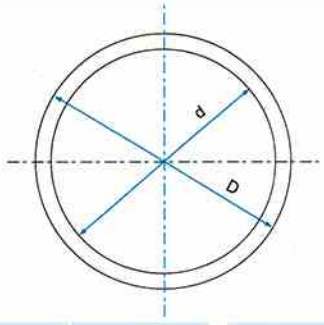


Chemical Composition (%)

Material	Si	Fe Max	Cu Max	Mn Max	Mg	Cr Max	Zn Max	Ti Max	Al
6063 T5	0.20-0.60	0.35	0.10	0.10	0.45-0.90	0.10	0.10	0.10	Rest

Mechanical Property

Material	Rm Mpa Min	Rp0.2 Mpa Min	A % Min	Hardness HBW Min
6063 T5	160	110	8	60



MX-01

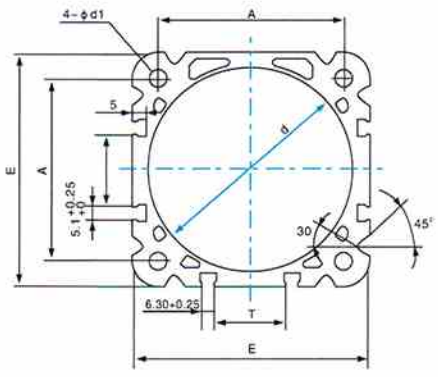
Main Technical Parameters

ID (mm) d	OD (mm) D	WT (mm)	ID (mm) d	OD (mm) D	WT (mm)	ID (mm) d	OD (mm) D	WT (mm)
16	20	2	63	68	2.5	125	132	3.5
20	25	2.5	63	69	3	125	133	4
25	30	2.5	63	70	3.5	140	150	5
30	35	2.5	70	75	2.5	150	160	5
32	36	2	70	76	3	160	167	3.5
32	37	2.5	75	80	2.5	160	170	5
35	40	2.5	80	86	3	180	190	5
38	45	3.5	80	87	3.5	200	210	5
40	44	2	80	90	5	250	262	6
40	45	2.5	90	97	3.5	300	312	6
50	54	2	100	106	3	320	336	8
50	55	2.5	100	107	3.5			
50	58	4	100	110	5			

SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

Aluminum Alloy Cylinder Tube

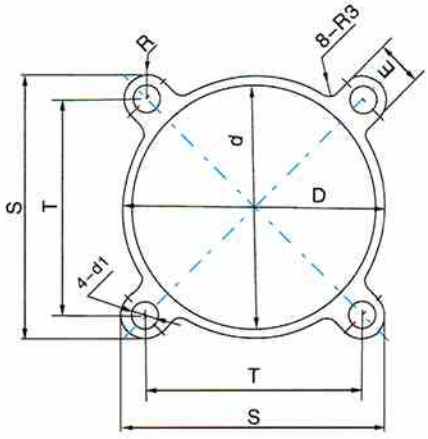
MX-02



Main technical Parameters

d	E	A	T	4-d1
32	44x44	32.5x32.5	8.2	5.1
40	51x51	38x38	11	5.1
50	64x64	46.5x46.5	17	6.7
63	75x75	56.5x56.5	26	6.7
80	93x93	72x72	28	8.7
100	111x111	89x89	35	8.7
125	134x134	110x110	55	10.3

MX-03



Main technical Parameters（SI）

d	D	T	S	E	4-d1
32	36.5	32.5x32.5	42.5x42.5	10	5.2
40	44.5	38x38	48x48	10	5.2
50	55.3	46.5x46.5	58.5x58.5	12	6.8
63	68	56.5x56.5	70x70	12	6.8
80	85.8	72x72	87.5x87.5	14	8.7
100	106	89x89	107x107	15	8.7
125	132.5	110x110	133x133	18.5	(10.5)
160	168.5	140x140	169x169	25.5	(17.5)
200	212	175x175	213x213	25.5	(17.5)

SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

MX METALS

Cold Drawn / Cold Rolled Precision Seamless Steel Tube

◆**Size:** OD 16-219mm WT 1.5-25mm

◆**Material:** ST37, ST45, ST52, 1020, 1026, 1045, CK45, E355, A179, A192, SUJ2

◆**Standard:** EN10305-1, DIN2391, DIN17175

◆**Tolerance:** OD +/-0.10mm ID+/-0.10mm

◆**Application:** hydraulic system, precision machined parts, automobile, diesel engine, engineering machinery, textile machinery, steel bar connecting sleeve, bushing sleeve



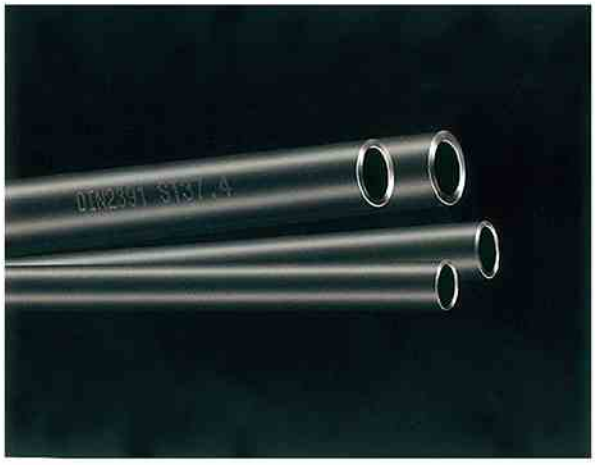
DIN Cold Drawn Precision Seamless Tube



Precision Hydraulic and Pneumatic Cylinder Seamless Tube



Cold Rolled Precision Seamless Pipe



Black Phosphate Precision Seamless Tube

SHANDONG MX METALS CO.,LTD
info@mxmetals.com sales@mxmetals.com www.mxmetals.com

Chrome Thickness Tester





Roughness Tester

Rockwell Hardness Tester



Ultrasonic Fault Detector



Impact Testing Machine



Tension Testing Machine



Salt Spray Tester



Inspection Equipment

SHANDONG MX METALS CO., LTD

Add: 7601, Yunchuangzhongxin, Guangyue Road,
Liaocheng City, Shandong Province, China

Tel: 86 - 635 - 8238690

Fax: 86 - 635 - 8306801

Email: info@mxmetals.com sales@mxmetals.com

Web: www.mxmetals.com