CHROME PLATED TUBES / *Tubi cromati*

PROPERTIES / *PROPRIETÀ*

ASO H&P chrome plated tubes are manufactured from seamless or welded cold drawn tubes or hot rolled tubes.
I tubi cromati di ASO H&P sono prodotti, partendo dai tubi trafilati saldati o senza saldatura o tubi laminati a caldo.

CHEMICAL COMPOSITION / *COMPOSIZIONE CHIMICA*

EN	W	DIN	C	Si	Mn	P	S	Al	V	Ti
			%	%	%	%	%	%	%	-
E355	1.0580	St52	-	-	-	-	min. 0.015	min. 0.020	-	-
			max. 0.22	max. 0.55	max. 1.60	max. 0.025	max. 0.040	-	-	-
E410	1.0509	-	min. 0.16	min. 0.10	min. 1.30	-	-	min. 0.01	min. 0.08	-
			max. 0.22	max. 0.50	max. 1.70	max. 0.030	max. 0.035	max. 0.06	max. 0.15	max. 0.05

*CEV calculated with the formula: % C + Mn/6 + Ni/0.15 + Cr/5 + Mo/4 + V/4 ≤ 0.5
CEV calcolato con la formula: % C + Mn/6 + Ni/0.15 + Cr/5 + Mo/4 + V/4 ≤ 0.5

MECHANICAL PROPERTIES / *PROPRIETÀ MECCANICHE*

STEEL GRADE / *ACCIAIO*		STANDARD	Tube thickness / Spessore tubo (mm)	Delivery Condition / Trattamento	Tensile Strength / Carico di rottura Rm [MPa (Psi)]	Yield Point / Limite di snervamento Rp0.2 [MPa (Psi)]	Elongation / Allungamento A [%]	Impact test / Resilienza longitudinale KV -20°C[J]
					EN6892-1			ISO148-1
E355	1.0580	EN 10305-1/2	All	+C	min. 640 (93000)	-	min. 4	-
				+SR	min. 620 (90 000)	min. 520 (75000)	min. 15	min. 27
			≤16	+AR	min. 490 (70000)	min. 355 (51000)	min. 20	-
			16<t≤40	+AR	min. 490 (70000)	min. 345 (50000)	min. 20	-
			40<t≤65	+AR	min. 490 (70000)	min. 345 (50000)	min. 20	-
E410	1.0509	EN 10305-1	40<t≤65	+AR	min. 690 (100000)	min. 345 (50000)	min. 12	min. 27

PROPERTIES / *PROPRIETÀ*

Surface Roughness /
Rugosità superficiale
max. 0.20 [µm]

Surface Hardness/
Durezza Superficiale
Chrome Layer hardness: min. 900 HV 0.1
Durezza del cromo: min. 900 HV 0.1

Diameter tolerance /
Tolleranza Dimensionale
Standard ISO-f7
**Special Tolerance can be provided at premium price*

Straightness / *Rettilineità*
Ø<20 [mm] max. 0.3 [mm]/1000 [mm]
Ø≥20 [mm] max. 0.2 [mm]/1000 [mm

Roundness / *Rotondità*
within 1/2 of the diameter tolerance field
Contenuta all'interno di 1/2 del campo di tolleranza

CORROSION RESISTANCE TEST / *TEST DI RESISTENZA ALLA CORROSIONE*

Based on a salt spray test following the ISO 9227 standard combined with the ISO 10289 for the evaluation of the rating.
Basato sui test in nebbia salina in riferimento allo standard ISO 9227e ISO 10289 per la valutazione del rating.

ISO9227	ASTM	DIN50021	Salt Spray Test
NSS	B117	SS	Neutral Salt Spray
AASS	B287	ASS	Acetic Acid Salt Spray
CASS	B368	CASS	Copper-accelerated acetic acid salt spray

CHROME PLATED TUBES / *Tubi cromati*

LENGTHS / *LUNGHEZZE*

Chrome plated tubes are supplied in random lengths 6000 - 8000 mm.
I tubi cromati sono forniti in lunghezze commerciali 6000 - 8000 mm.

INDUCTION HARDENING VALUES / *VALORI TEMPRA A INDUZIONE*

Steel / Acciaio	Dia. (mm)	OD Dia. Esterno
E355	Thk (mm)	1,0 - 4,0
	Hardness	≥35 HRC

DIMENSIONAL RANGE / *GAMMA DIMENSIONALE*

STANDARD ● UPON REQUEST ▲ NOT AVAILABLE □

OD DIA. ESTERNO (MM)	OD DIA. ESTERNO (INCH)	ID DIA. INTERNO (MM)	ID DIA. INTERNO (INCH)	WT SPESSORE (MM)	WEIGHT *PESO* (KG/M)	A-CHROME TUBE 20
12		8		2	0,49	▲
16		10		3	0,96	▲
18		10		4	1,38	▲
18		12		3	1,11	▲
20		12		4	1,58	●
20		14		3	1,26	●
20		15		2,5	1,08	●
22		9,5		6,25	2,43	●
22		16		3	1,40	●
25		10		7,5	3,24	●
25		15		5	2,46	●
25		18		3,5	1,85	●
25		19		3	1,63	●
25		20		2,5	1,39	●
28		16		6	3,25	●
28		20		4	2,37	●
30		10		10	4,93	●
30		15		7,5	4,16	●
30		16		7	3,97	●
30		20		5	3,08	●
32		10		11	5,69	●
32		15		8,5	4,92	●
32		16		8	4,73	●
32		20		6	3,85	●
32		22		5	3,33	●
32		24		4	2,76	●
34,925	1 3/8"	19,05	3/4"	7,9375	5,28	●
35		15		10	6,16	●
35		16		9,5	5,97	●
35		20		7,5	5,08	●
35		25		5	3,70	●
36		20		8	5,52	●
36		24		6	4,44	●
36		26		5	3,82	●
40		20		10	7,39	●
40		24		8	6,31	●
40		25		7,5	6,01	●

CHROME PLATED TUBES / *Tubi cromati*

DIMENSIONAL RANGE / *GAMMA DIMENSIONALE*

STANDARD ● UPON REQUEST ▲ NOT AVAILABLE □

OD DIA. ESTERNO (MM)	OD DIA. ESTERNO (INCH)	ID DIA. INTERNO (MM)	ID DIA. INTERNO (INCH)	WT SPESSORE (MM)	WEIGHT *PESO* (KG/M)	A-CHROME TUBE 20
40		28		6	5,03	●
40		30		5	4,31	●
45		25		10	8,63	●
45		29		8	7,30	●
45		30		7,5	6,93	●
45		32		6,5	6,17	●
45		35		5	4,93	●
50		25		12,5	11,55	●
50		28		11	10,57	●
50		30		10	9,86	●
50		34		8	8,28	●
50		35		7,5	7,86	●
50		38		6	6,51	●
50		40		5	5,55	●
50,8	2"	25,4	1"	12,7	11,93	●
50,8	2"	31,75	1.1/4"	9,525	9,69	●
50,8	2"	38,1	1.1/2"	6,35	6,96	●
55		30		12,5	13,09	●
55		35		10	11,09	●
55		40		7,5	8,78	●
55		45		5	6,16	●
56		28		14	14,49	●
56		33		11,5	12,61	●
60		32		14	15,87	●
60		35		12,5	14,64	●
60		40		10	12,32	●
60		45		7,5	9,71	●
60		50		5	6,78	●
63		32		15,5	18,15	●
63		40		11,5	14,60	●
63		43		10	13,06	●
63		48		7,5	10,26	●
63		50		6,5	9,05	●
63		53		5	7,15	●
63,5	2.1/2"	38,1	1.1/2"	12,7	15,90	●
65		45		10	13,56	●
65		50		7,5	10,63	●
65		55		5	7,39	●
69,85	2.3/4"	38,1	1.1/2"	15,875	21,12	●
69,85	2.3/4"	44,45	1.3/4"	12,7	17,89	●
70		40		15	20,34	●
70		45		12,5	17,72	●
70		50		10	14,79	●

CHROME PLATED TUBES / *Tubi cromati*

DIMENSIONAL RANGE / *GAMMA DIMENSIONALE*

STANDARD ● UPON REQUEST ▲ NOT AVAILABLE □

OD DIA. ESTERNO (MM)	OD DIA. ESTERNO (INCH)	ID DIA. INTERNO (MM)	ID DIA. INTERNO (INCH)	WT SPESSORE (MM)	WEIGHT *PESO* (KG/M)	A-CHROME TUBE 20
70		55		7,5	11,55	●
70		60		5	8,01	●
75		48		13,5	20,46	●
75		65		5	8,63	●
76,2	3"	44,45	1.3/4"	15,875	23,61	●
80		50		15	24,03	●
80		54		13	21,47	●
80		55		12,5	20,80	●
80		60		10	17,25	●
80		65		7,5	13,40	●
80		70		5	9,24	●
85		56		14,5	25,20	●
85		60		12,5	22,34	●
85		65		10	18,49	●
85		70		7,5	14,33	●
85		73		6	11,68	●
85		75		5	9,86	●
88,9	3.1/2"	50,8	2"	19,05	32,80	●
90		60		15	27,73	●
90		65		12,5	23,88	●
90		70		10	19,72	●
90		71		9,5	18,85	●
90		75		7,5	15,25	●
90		80		5	10,48	●
95		70		12,5	25,42	●
95		75		10	20,95	●
95		80		7,5	16,18	●
95		85		5	11,09	●
100		55		22,5	42,98	●
100		70		15	31,43	●
100		71		14,5	30,56	●
100		75		12,5	26,96	●
100		80		10	22,18	●
100		85		7,5	17,10	●
100		90		5	11,71	●
101,6	4"	88,9	3.1/2"	6,35	14,91	●
105		80		12,5	28,50	●
105		85		10	23,42	●
105		90		7,5	18,02	●
105		95		5	12,32	●