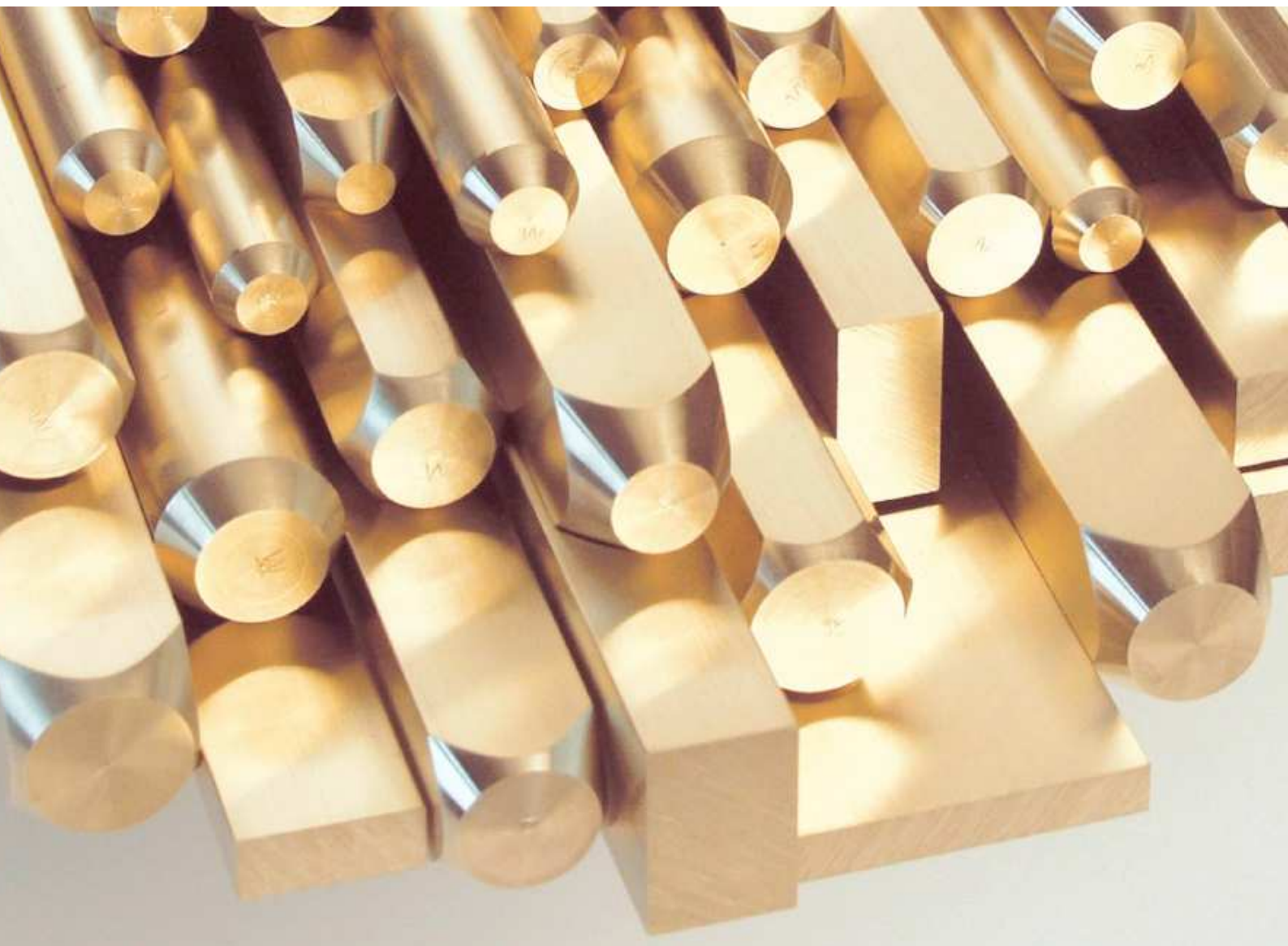


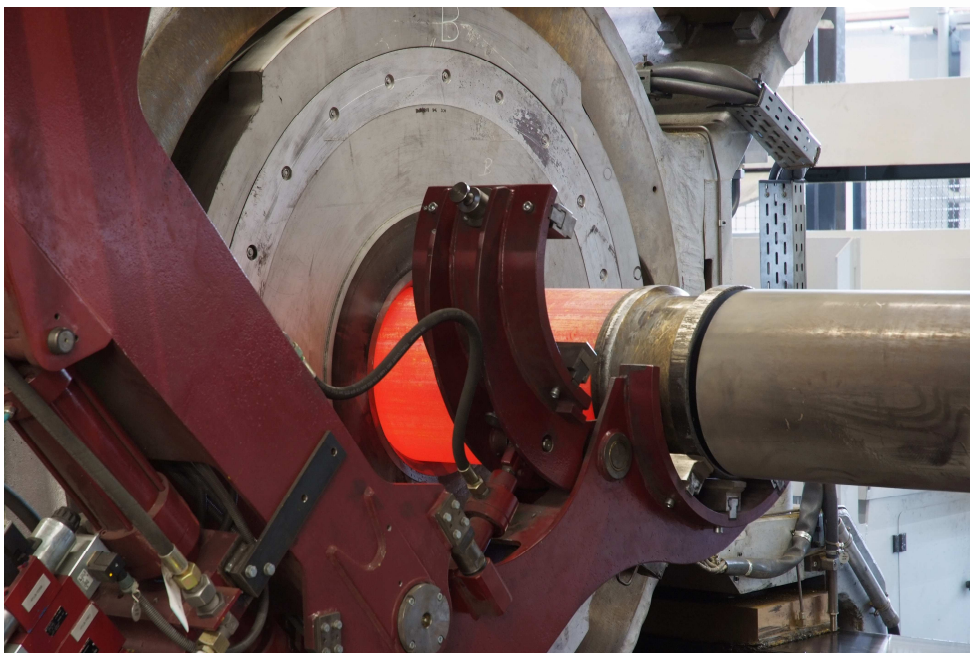


Brass



For more than 45 years, our company has been committed to providing the global distributors community with innovative, high quality, cost effective brass products. From our humble beginnings in 1968, the Company has grown to become one of the largest professional brass products company in the world. With operations in many countries, the Company distributes its TVH® products in over 72 countries under some of the most well established brand names in the industry. Worldwide, stockist and distribution professionals now depend upon TRAIID for quality and service.

TRAID VILLARROYA manufactures a complete range of brass TVH® alloy rods, and shapes for all types of industries and customers. Our materials operate in many varied and often challenging applications. An unwavering commitment has always been maintained to the highest standards of the quality, as well as for the protection of the environment in the communities in which we live and work. The long-term business success of our products depends on our ability to ensure that our quality remains a top priority for the management and each employee. This idea is our commitment to making sustainable health a reality through innovative technology and services focused on addressing three critical needs: lowering costs, helping our customers and improving quality. All our rods and shapes are inspected with x-ray spectrometer as well as analyzed for determining the perfect composition according to international norms. Here we present you our standard delivery program, besides the stock list shown, other sizes and formats are also available upon request. All our materials are tested to certify the hardness, tensile and ultimate tensile strength. Our quality certification DIN ISO 9001:2008 regularly audited covers all our production from the very first moment to your final stock. The evolution of TRAIID VILLARROYA continues ... After all, we're more than a manufacturer. More than a distributor. We're an essential resource. Our customers' challenges keep changing, and we're helping them adapt every step of the way.



TVH® TV39Pb3 (CuZn39Pb3) MANUFACTURING PROGRAM

SOLID RODS

<i>Ø nominal size mm.</i>	<i>Approx. weight Kg/m.</i>	<i>Ø nominal size mm.</i>	<i>Approx. weight Kg/m.</i>
2.0	0,03	27.0	4,88
2.5	0,04	28.0	5,23
3.0	0,06	29.0	5,60
3.5	0,08	30.0	6,01
3.8	0,10	31.0	6,43
4.0	0,11	32.0	6,84
4.2	0,12	33.0	7,28
4.5	0,14	34.0	7,72
4.8	0,15	35.0	8,19
5.0	0,17	36.0	8,65
5.5	0,20	37.0	9,15
6.0	0,24	38.0	9,64
6.5	0,28	39.0	10,16
7.0	0,33	40.0	10,69
7.5	0,38	42.0	11,78
8.0	0,43	44.0	12,92
8.5	0,48	45.0	13,52
9.0	0,54	46.0	14,13
9.5	0,60	48.0	15,38
10.0	0,67	50.0	16,69
10.5	0,74	52.0	18,05
11.0	0,81	55.0	20,19
11.5	0,89	56.0	20,94
12.0	0,96	58.0	22,46
12.5	1,04	60.0	24,03
13.0	1,13	65.0	28,21
13.5	1,22	70.0	32,71
14.0	1,31	75.0	37,55
14.5	1,40	80.0	42,73
15.0	1,50	85.0	48,23
15.5	1,61	90.0	54,08
16.0	1,71	95.0	60,25
17.0	1,93	100	66,76
17.5	2,05	105	73,56
18.0	2,16	110	80,74
18.5	2,23	115	88,24
19.0	2,41	120	96,08
19.5	2,54	125	104,25
20.0	2,67	130	112,77
20.5	2,81	140	130,78
21.0	2,94	150	150,13
22.0	3,23	160	170,82
22.5	3,38	170	192,84
23.0	3,55	180	216,90
23.5	3,70	200	266,90
24.0	3,84	210	294,26
25.0	4,16	225	337,80
26.0	4,51	250	417,03

TVH® TV39Pb3 (CuZn39Pb3) MANUFACTURING PROGRAM

SQUARES

*Ø nominal size
mm.*

*Approx.
weight
Kg/m.*

3 x 3	0,08
4 x 4	0,14
5 x 5	0,21
5,5 x 5,5	0,26
6 x 6	0,31
7 x 7	0,42
8 x 8	0,54
9 x 9	0,69
10 x 10	0,85
11 x 11	1,03
12 x 12	1,22
14 x 14	1,67
15 x 15	1,91
16 x 16	2,18
18 x 18	2,76
20 x 20	3,40
22 x 22	4,11
25 x 25	5,31
30 x 30	7,65
40 x 40	13,60
50 x 50	21,25
60 x 60	30,60

TVH® TV39Pb3 (CuZn39Pb3) MANUFACTURING PROGRAM

HEXAGONAL RODS

<i>Ø nominal size mm.</i>	<i>Approx. weight Kg/m.</i>
4,0	0,12
4,5	0,15
5,0	0,18
5,5	0,22
6,0	0,27
7,0	0,36
8,0	0,47
9,0	0,60
10,0	0,74
11,0	0,89
12,0	1,06
13,0	1,24
14,0	1,44
15,0	1,66
16,0	1,88
17,0	2,13
18,0	2,38
19,0	2,66
20,0	2,94
21,0	3,26
22,0	3,56
23,0	3,89
24,0	4,24
25,0	4,60
27,0	5,37
30,0	6,62
32,0	7,54
36,0	9,54
38,0	10,63
41,0	12,37
46,0	15,58
50,0	18,40
55,0	22,27
60,0	26,50

TVH® TV39Pb3 (CuZn39Pb3) MANUFACTURING PROGRAM

RECTANGULAR SECTIONS

<i>Ø Nominal size mm.</i>	<i>Approx. weight Kg/m.</i>	<i>Ø Nominal size mm.</i>	<i>Approx. weight Kg/m.</i>
5 x 2	0,09	25 x 20	4,25
6 x 2	0,10	30 x 3	0,77
8 x 2	0,14	30 x 4	1,02
10 x 2	0,17	30 x 5	1,28
15 x 2	0,26	30 x 6	1,53
20 x 2	0,34	30 x 8	2,04
25 x 2	0,43	30 x 10	2,55
8 x 3	0,20	30 x 15	3,83
8 x 4	0,27	30 x 20	5,10
8 x 6	0,41	35 x 5	1,49
10 x 3	0,26	35 x 10	2,98
10 x 4	0,34	35 x 20	5,95
10 x 5	0,43	40 x 3	1,02
10 x 6	0,51	40 x 4	1,36
10 x 8	0,68	40 x 5	1,70
12 x 3	0,31	40 x 6	2,04
12 x 4	0,41	40 x 8	2,72
12 x 5	0,51	40 x 10	3,40
12 x 6	0,61	40 x 12	4,08
12 x 8	0,82	40 x 15	5,10
12 x 10	1,02	40 x 20	6,80
15 x 3	0,38	40 x 25	8,50
15 x 4	0,51	40 x 30	10,20
15 x 5	0,64	50 x 4	1,70
15 x 6	0,77	50 x 5	2,12
15 x 8	1,02	50 x 6	2,55
15 x 10	1,28	50 x 8	3,40
20 x 3	0,51	50 x 10	4,25
20 x 4	0,68	50 x 15	6,38
20 x 5	0,85	50 x 20	8,50
20 x 6	1,02	50 x 25	10,63
20 x 8	1,36	50 x 30	12,75
20 x 10	1,70	60 x 6	3,06
20 x 12	2,04	60 x 10	5,10
20 x 15	2,55	60 x 20	10,20
25 x 3	0,64	60 x 30	15,30
25 x 4	0,85	60 x 40	20,40
25 x 5	1,06	70 x 10	5,95
25 x 6	1,28	80 x 10	6,80
25 x 8	1,70	80 x 20	13,60
25 x 10	2,13	100 x 10	8,50
25 x 12	2,55	100 x 20	17,00
25 x 15	3,19		

TVH® TV39 (CuZn39Pb3)

Density 8,46 g/cm³
Free machining brass

Specifications:

TRAID	TVH®	TV39
D	DIN 1705	CuZn39Pb3
EUR	EN	CuZn39Pb3
GB	BS	CZ121Pb3
USA	UNS	C 38500

Nominal composition:

Cu	57,50 %
Pb	3,30 %
Zn	Rest

PROPERTIES	UNIT	VALUE
Electrical conductivity	MS/m	14.60
Thermal conductivity	W(m*K)	113
Thermal expansion coefficient	(0-300°C) 10 ⁻⁵ /K	21.40
Modulus of elasticity E	GPa	96

MECHANICAL PROPERTIES

Reference values	From (extruded/soft)	To (hard)
Rm (MPa)	340	600
R _{p0.2} (MPa)	180	480
A ₅ (%)	40	10
HB	90	175

FABRICATION PROPERTIES

Forming	
Machinability	100%
Capacity for being cold worked	Poor
Capacity for being hot worked	Excellent
Joining	
Resistance welding	Fair
Inert gas shielded	Poor
Arc welding	Poor
Hard soldering	Fair
Soft soldering	Excellent
Surface treatment	
Polishing	Good
Mechanical	Good
Electrolytic	Poor
Electroplating	Excellent

MAIN CHARACTERISTICS

Quite resistant against organic substances as well as neutral or alkaline compounds.
Machining index of 100%.
Particularly suitable for hot stamping when the forged parts are subsequently machined extensively.
Recommended for applications where cold working with little reduction such as knurling is used.
The ductility of this material makes it particularly suitable for the manufacture of wires as well as bars and sections.

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