

STAR EXTRUSION

FACTORY : PLOT NO .226/A, G.I.D.C. ,UMBERGOAN-396 171, DIST. VALSAD (GUJRAT)
TELEFAX : +91-260-256 0089
EMAIL : info@starextrusion.com

Certificate of Conformity

This certificate of conformity is issued under the sole responsibility of the manufacturer

STAR EXTRUSION

**Plot No 226 A - G.I.D.C. Umbergaon
District Valsad Gujarat - INDIA**

**Object of Certificate: TQ Series of Copper
Connector and Compression Lugs.**

Type: Please refer to **Annex 1**

Objects of the certificate described above are always been produced from ETP Copper, which is in conformity with standard of ASTM C11000. [test certificate attached]

Signed for and on behalf of:

Star Extrusion



Authorized Signatory

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TEST CERTIFICATE

Certificate no: SI/013/2023-24

Date: 09 FEB 2024

Product Description: TQ Series of Copper Crimping Lugs
Part No: Random Samples

Copper Composition test (Random Sample): As per ASTM C11000.

Elements	Se	Pb	Sn	Te	Bi	Fe	Ni	S	Cu
ASTM C-11000	.002	.005	.005	.002	.001	.010	.010	.015	99.95% min
(ppm,max)									
value%	0.002	0.001	0.001	0.001	0.000	0.005	0.000	0.000	99.99

Physical properties:

Description	Value
hardness HV/BHN	45 to 55 (BHN)
Flattening Test	Satisfactory
Conductivity % IACS (min 99%)	99.98%

Tinning Report:

Description	Required	Observed
Tinning	3 micron minimum	4.7,4.5,5.1 microns

Conclusion: OK.

Certificate approved by:

QC Manager



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TECHNICAL DETAILS (Annex 1)

Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)	Stud distance from top (+- 0.5)	Stud distance from Barrel (+-0.5)	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (-.01)	Total length (+-1)
Bell Entry copper lugs		D	W	F	E		B	A	L
TQ	1.5-4	6	8.5	6	6	4.3	1.8	3.3	20
TQ	1.5-5	6	9.5	6	6	5.3	1.8	3.3	20
TQ	1.5-6	6	10.5	6	6	6.4	1.8	3.3	20
TQ	2.5-4	7	8.5	6	6	4.3	2.4	4.2	21
TQ	2.5-5	7	9.5	6	6	5.3	2.4	4.2	21
TQ	2.5-6	7	10.5	6	6	6.4	2.4	4.2	21
TQ	4.0-4	9	8.5	5.5	6	4.3	3.5	5	25
TQ	4.0-5	9	9.5	6	6	5.3	3.5	5	25
TQ	4.0-6	9	10.5	6	6	6.4	3.5	5	25
TQ	6.0-4	9	8	6	6	4.3	4	6	28
TQ	6.0-5	9	9	6	6	5.3	4	6	28
TQ	6.0-6	9	11	6	6	6.4	4	6	28
TQ	6.0-8	10	13	9.5	9.5	8.4	4	6	35
TQ	6.0-10	10	14.5	9.5	9.5	10.5	4	6	35
TQ	10.0-5	9	11	5.1	5.9	5.3	4.4	6.9	27
TQ	10.0-6	9	11	5.1	5.9	6.4	4.4	6.9	27
TQ	10.0-8	11	14	8.25	9.75	8.4	4.4	6.9	35
TQ	10.0-10	10	16	10	12	10.5	4.4	6.9	39
TQ	10.0-12	10	18	10	12	13	4.4	6.9	39
TQ	16.0-5	11	11	5.1	5.9	5.3	5.6	8.0	29.5
TQ	16.0-6	11	11	5.1	5.9	6.4	5.6	8.0	29.5
TQ	16.0-8	11	14	8.25	9.75	8.4	5.6	8.0	38
TQ	16.0-10	11	16	10	12	10.5	5.6	8.0	42
TQ	16.0-12	11	18	10	12	13	5.6	8.0	42
TQ	25.0-5	13	13.5	8.25	9.75	5.3	7	9.5	40
TQ	25.0-6	13	13.5	8.25	9.75	6.4	7	9.5	40

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TQ	25.0-8	13	13.5	8.25	9.75	8.4	7	9.5	40
TQ	25.0-10	13	16	10	12	10.5	7	9.5	44
TQ	25.0-12	13	18	10	12	13	7	9.5	44
TQ	35.0-6	14	15.5	8.25	9.75	6.4	8.2	11	41
TQ	35.0-8	14	15.5	8.25	9.75	8.4	8.2	11	41
TQ	35.0-10	14	15.5	10	12	10.5	8.2	11	45
TQ	35.0-12	14	18	10	12	13	8.2	11	45
TQ	35.0-14	14	20	12	12	15	8.2	11	45
TQ	35.0-16	14	20	8.2	11	45	8.2	11	55
TQ	50.0-6	18	17.2	8.25	9.75	6.4	9.45	12.1	46
TQ	50.0-8	18	17.2	8.25	9.75	8.4	9.45	12.1	46
TQ	50.0-10	18	17.2	8.25	12	10.5	9.45	12.1	50
TQ	50.0-12	18	17.2	8.25	12	13	9.45	12.1	50
TQ	50.0-14	18	20	8.25	15	15	9.45	12.1	55
TQ	50.0-16	18	22	8.25	15	17	9.45	12.1	55
TQ	70.0-6	18	21.2	8.25	9.75	6.4	11.5	15	48
TQ	70.0-8	18	21.2	8.25	9.75	8.4	11.5	15	48
TQ	70.0-10	18	21.2	10	12	10.5	11.5	15	52
TQ	70.0-12	18	21.2	10	12	13	11.5	15	52
TQ	70.0-14	18	21.5	16.5	16.5	15	11.5	15	63
TQ	70.0-16	18	21.2	16.5	16.5	17	11.5	15	63
TQ	95.0-6	24	24.3	10	12	6.4	13.5	17	58
TQ	95.0-8	24	24.3	10	12	8.4	13.5	17	58
TQ	95.0-10	24	24.3	10	12	10.5	13.5	17	58
TQ	95.0-12	24	24.3	10	12	13	13.5	17	52
TQ	95.0-14	24	21.2	10	12	15	13.5	17	52
TQ	95.0-16	24	21.2	10	12	17	13.5	17	52
TQ	95.0-20	24	21.2	13.5	17	61	13.5	17	70
TQ	120.0-6	27	27.2	15	19	73	15	19	73
TQ	120.0-8	27	27.2	16.5	16.5	8.4	15	19	73
TQ	120.0-10	27	27.2	16.5	16.5	10.5	15	19	73
TQ	120.0-12	27	27.2	16.5	16.5	13	15	19	73
TQ	120.0-14	27	27.2	16.5	16.5	15	15	19	73
TQ	120.0-16	27	27.2	16.5	16.5	17	15	19	73

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Mark	mm2- stud	Barrel length (+ 1)	Palm width (+ 0.5)	Stud distance from top (+ 0.5)	Stud distance from Barrel (+0.5)	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (- .01)	Total length (+-1)
Bell Entry copper lugs		D	W	F	E		B	A	L
TQ	120.0-20	27	27.2	16.5	16.5	21	15	19	73
TQ	150.0-6	27	30	16.5	16.5	6.4	16.5	21	78
TQ	150.0-8	27	30	16.5	16.5	8.4	16.5	21	78
TQ	150.0-10	27	30	16.5	16.5	10.5	16.5	21	78
TQ	150.0-12	27	30	16.5	16.5	13	16.5	21	78
TQ	150.0-14	27	30	16.5	16.5	15	16.5	21	78
TQ	150.0-16	27	30	16.5	16.5	17	16.2	21	78
TQ	150.0-20	27	30	14.25	18.75	21	16.5	21	78
TQ	185-6	30	33.5	16.5	16.5	6.4	18.5	23	82
TQ	185-8	30	33.5	16.5	16.5	8.4	18.5	23	82
TQ	185.0-10	30	33.5	16.5	16.5	10.5	18.5	23	82
TQ	185.0-12	30	33.5	16.5	16.5	13	18.5	23	82
TQ	185.0-14	30	33.5	16.5	16.5	15	18.5	23	82
TQ	185.0-16	30	33.5	16.5	16.5	17	18.5	23	82
TQ	185.0-20	30	33.5	14.25	18.75	21	18.5	23	82
TQ	240-8	32	37.7	17	18	8.4	21	26	88
TQ	240.0-10	32	37.7	17	18	10.5	21	26	88
TQ	240.0-12	32	37.7	17	18	13	21	26	88
TQ	240.0-14	32	37.7	17	18	15	21	26	88
TQ	240.0-16	32	37.7	17	18	17	21	26	88
TQ	240.0-20	32	37.7	17	18	21	21	26	88
TQ	300-8	37	41	17	18	8.4	23	28	97
TQ	300.0-10	37	41	17	18	10.5	23	28	97
TQ	300.0-12	37	41	17	18	13	23	28	97
TQ	300.0-14	37	41	17	18	15	23	28	97
TQ	300.0-16	37	41	17	18	17	23	28	97
TQ	300.0-20	37	41	17	18	21	23	28	97
TQ	400.0-10	38	47.3	25	25	10.5	27	32	113
TQ	400.0-12	38	47.3	25	25	13	27	32	113
TQ	400.0-14	38	47.3	25	25	15	27	32	113

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Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)	Stud distance from top (+- 0.5)	Stud distance from Barrel (+-0.5)	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (-.01)	Total length (+-1)
Bell Entry copper lugs		D	W	F	E		B	A	L
TQ	400.0-16	38	47.3	25	25	17	27	32	113
TQ	400.0-20	38	47.3	25	25	21	27	32	113
TQ	500-BLK	44	55	25	29	0	30	38.1	127
TQ	500-10	44	55	25	29	10.5	30	38.1	127
TQ	500-12	44	55	25	29	13	30	38.1	127
TQ	500-14	44	55	25	29	15	30	38.1	127
TQ	500-16	44	55	25	29	17	30	38.1	127
TQ	500-20	44	55	25	29	21	30	38.1	127
TQ	630-BLK	46	63	23	25	0	33.8	44	127
TQ	630-10	46	63	23	25	10.5	33.8	44	127
TQ	630-12	46	63	23	25	13	33.8	44	127
TQ	630-14	46	63	23	25	15	33.8	44	127
TQ	630-16	46	63	23	25	17	33.8	44	127
TQ	630-20	46	63	23	25	21	33.8	44	127
TQ	800-BLK	56	70	34	34	0	38	49	164
TQ	800-10	56	70	34	34	10.5	38	49	164
TQ	800-12	56	70	34	34	13	38	49	164
TQ	800-14	56	70	34	34	15	38	49	164
TQ	800-16	56	70	34	34	17	38	49	164
TQ	800-20	56	70	34	34	21	38	49	164
TQ	1000BLK	56	77	34	34	0	42.5	53	169
TQ	1000-10	56	77	34	34	10.5	42.5	53	169
TQ	1000-12	56	77	34	34	13	42.5	53	169
TQ	1000-14	56	77	34	34	15	42.5	53	169
TQ	1000-16	56	77	34	34	17	42.5	53	169
TQ	1000-20	56	77	34	34	21	42.5	53	169

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LONG PALM LUGS		D	W	F	E		B	A	L
TQ	10-6POI	10	11	34	16	6.5	4.6	6.9	50
TQ	16-6POI	11	11	34	16	6.5	5.6	8	52
TO	25-6POI	13	13.5	34	16	6.5	7	9.5	56
TQ	35-6POI	18	15.5	34	16	6.5	8.2	11	57
TQ	50-6POI	18	17	75	45	6.5	9.5	11.9	83
TQ	70-12POI	18	21.2	75	45	12.8	11.5	15	105
TQ	95-12POI	24	24.3	75	45	12.8	13.5	17	111
TQ	120-12POI	27	27.2	75	45	12.8	15	19	115
TQ	150-12POI	27	30	75	45	12.8	16.5	21	120
TQ	185-12POI	30	33.5	75	45	12.8	18.5	23	125
TQ	240-12POI	32	37.7	75	45	12.8	21	26	128
TQ	300-12POI	37	41	75	45	12.8	23	28	137
TQ	400-12POI	38	47.3	75	45	12.8	27	32	138
TQ	500-12POI	50	55	75	45	12.8	30	38	160
TQ	630-12POI	50	63	75	45	12.8	33.8	44	164

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FOUR HOLE LUGS		D	W	F	E		B	A	L
TFQ	120.4x8	34	56	25	17	33.6	15	22	119
TFQ	120.4X10	34	56	25	17	42	15	22	119
TFQ	150.4x8	34	56	25	17	33.6	16.5	23	119
TFQ	150.4X10	34	56	25	17	42	16.5	23	119
TFQ	185.4x8	34	56	25	17	33.6	18.5	24.8	119
TFQ	185.4X10	34	56	25	17	42	18.5	24.8	119
TFQ	240.4x8	34	56	25	17	33.6	21	28.0	119
TFQ	240.4X10	34	56	25	17	42	21	28	119
TFQ	300.4x8	42	56	25	17	33.6	23	33.0	126
TFQ	300.4X10	42	56	25	17	42	23	33	126
TFQ	400.4x8	44	56	25	17	33.6	27	36.0	126
TFQ	400.4X10	44	56	25	17	42	27	36	126
TFQ	500.4x8	65	56	25	17	33.6	30	38.0	150
TFQ	500.4X10	65	56	25	17	42	30	38	150
TFQ	630.4x8	65	63	25	17	33.6	34	<u>44.0</u>	150
TFQ	630.4X10	65	63	25	17	42	34	44	150

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Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)	Stud distance from top (+- 0.5)	Stud distance from Barrel (+-0.5)	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (-.01)	Total length (+-1)
NARROW PALM LUGS		D	W	F	E		B	A	L
TRP	10-5	6.5	9	6	6.5	5.2	4.5	6.9	26
TRP	16-5	6.5	9	6	6.5	5.2	5.6	7.9	29
TRP	25-5	6.5	9	6	6.5	5.2	7	9.5	31.5
TRP	35-6	8	11.5	7	8	6.4	8.2	11	36.5
TRP	50-6	8	11.5	7	8	6.4	9.5	12.1	40.5
TRP	70-6	8	11.5	7	8	6.4	11.5	15	44
TRP	70-8	18	11.5	7	8	8.4	11.5	15	44
TRP	70-10	18	11.5	7	8	11	11.5	15	46
TRP	95-8	9	15.5	8	9	8.4	13.5	17	52.5
TRP	120-8	14	19	9	14	8.4	15	19.0	60
TRP	120-10	14	19	9	14	10.5	15	19.0	60
TRP	150-8	18	19	9	18	8.4	16.5	21.0	70
TRP	150-10	18	19	9	18	10.5	16.5	21.0	70
TRP	185-10	18	24.5	9	18	10.5	18.5	23.0	77
TRP	185-12	18	24.5	9	18	13	18.5	23.0	77
TRP	240-10	13	31	9	13	10.5	21	26	80
TRP	240-12	16	31	12	16	13	21	26	86
TRP	240-16	19	31	17	19	17	21	26	94
TRP	300-10	16	31	12	16	10.5	23	28	95
TRP	300.12	16	31	12	16	13	23	28	95

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Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)	Stud distance from top (+- 0.5)	Stud distance from Barrel (+-0.5)	Stud hole (+-.25)	Barrel ID(+1)	Barrel OD (-.01)	Total length (+-1)
BUTT CONNECTORS		D	W	F	E		B	A	L
TQ	1.5BS						1.8	3.3	14
TQ	2.5BS						2.3	4.2	16
TQ	4BS						3	5	19
TQ	6BS						4	6	22
TQ	10BS						4.4	6.9	25
TQ	16BS						5.6	8	30
TQ	25BS						7	9.5	35
TQ	35BS						8.2	11	39
TQ	50BS						9.5	12.1	44
TQ	70BS						11.5	15	44
TQ	95BS						13.5	17	55
TQ	120BS						15	19	63
TQ	150BS						16.5	21	66
TQ	185BS						18.5	23	74
TQ	240BS						21	26	80
TQ	300BS						23	28	89
TQ	400BS						27	32	90
TQ	500BS						30	38.1	135
TQ	630BS						33.8	44	135
TQ	800BS						38	49	135
TQ	1000BS						42.5	53	135
PARALLEL CONNECTORS/SPLICES									
PS	4PS						3	5	9
PS	6PS						4	6	9
PS	10PS						4.4	6.9	11
PS	16PS						5.6	8	14
PS	25PS						7	9.5	16
PS	35PS						8.2	11	18
PS	50PS						9.5	12.1	21
PS	70PS						11.5	15	21

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Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)		PALM LENGTH	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (-.01)	Total length (+-1)
PIN Type CONNECTORS		D	W		E		B	A	L
UP	10UP	9	4.3		14.5		4.8	7.1	23.5
UP	16UP	10	5.5		18		5.9	8.2	28
UP	25UP	11.7	7		20.3		7	9.8	32
UP	35UP	14.5	8		24.5		8.9	12.1	39
UP	50UP	19	9.5		26		10	13.7	45
UP	70UP	24	11		31		11.5	15.7	55

Mark	mm2-stud	Barrel length (+- 1)	Palm width (+- 0.5)		PALM LENGTH	Stud hole (+-.25)	Barrel ID(+.1)	Barrel OD (-.01)	Total length (+-1)
SOLID PIN Type CONNECTORS		D	W		E		B	A	L
USP	10USP	8.6	3.8		10		4.4	6.2	23
USP	16USP	8	3.8		13		5.3	7	30
USP	25USP	12	5		20		7	9.5	37
USP	35USP	15	5		20		8	11	37
USP	50USP	15	7.5		20		9.5	12.5	41
USP	70USP	21	8		20		11.25	15.8	48
USP	95USP	20	8		20		13.5	18	51
USP	120USP	20	11.5		25		15	19.2	53
USP	150USP	23	11.5		32		16.5	21	64
USP	185USP	28	11.5		32		18.5	23	70
USP	240USP	32	15.6		32		21	27	76
USP	300USP	41	15.6		32		23	30.4	80

