Precision in Every Dimension

Products Catalogue 2025

FOUNDER

(1929-2006)
In loving memory of
Shri. Govindbhai S. Patel
The Pioneer Of Cable Jointing Technology in India
The Founder Of 3D brand Cable Lugs
and Crimping Tools.

(1954- 2023)
In loving memory of
Shri. Ashokbhai Patel
The Technical Director and Founder
of 3D Brand Cable Lugs and
Crimping Tools.

Pioneering Electrical Solutions Since 1990

Introduction:

Incorporated in 1990, Billets Elektro Werke Pvt Ltd (BEWL) has been a leading force in the manufacturing of cable lugs, connectors, metal socket, split bolts and other electrical components, utilizing copper and aluminium as the key raw materials. Strategically located in Umbergaon, Gujarat, our state-of-the-art manufacturing facility boasts an installed capacity of 1000 metric tons of cable lugs & connectors. With a strong focus on quality and innovation, BEWL has emerged as a prominent player in the global market, with exports accounting for over 65% of our operating income, particularly to Australia, Europe, USA, South East Asia, and the Middle East.

Our Journey:

Billets Elektro Werke Pvt Ltd embarked on its journey of engineering excellence and innovation from a humble beginning as a small shop manufacturing cycle rickshaws in Nagpur. Founded by Mr. Govindbhai Patel, our company initially diversified into the production of switchgear products and star delta starters for the electrical industry. Leveraging their academic engineering background, Mr. Patel and his son, Mr. Ashok Patel, pioneered the use of cold-crimping technology for cable terminations, setting new standards in the industry.

Our expansion into domestic markets in 2006 further solidified our industry presence.

Global Reach and Recognition:

Driven by a commitment to excellence, Billets Elektro Werke Pvt Ltd has expanded its footprint beyond the domestic market, establishing a strong presence in key international markets including Germany, Spain, Australia, New Zealand, UK, South Africa, Malaysia, Hong Kong, Vietnam, and the Middle East. Our expertise in design, manufacturing, and quality control has earned us the trust and loyalty of clients worldwide, with whom we share enduring business relationships spanning decades.

Innovation in Automating Cable Lugs Production:

As part of our commitment to innovation and efficiency, Billets Elektro Werke Pvt Ltd has invested significantly in automating our cable lugs production process. By leveraging cutting-edge automation technologies, we have streamlined production workflows, reduced lead times, and enhanced product consistency and quality. This innovative approach not only allows us to meet the growing demand for cable lugs with greater efficiency but also enables us to maintain our position as a market leader in the electrical manufacturing industry.

Diversification and Innovation:

As our company continues to grow and diversify in the electrical components market, we are proud to introduce our latest range of copper tubes, rods, sections, and strips. With plans to cater to the high-volume copper semis market, we remain committed to driving innovation and delivering high-quality solutions that meet the evolving needs of our customers.

OUR MOTTO

The dimensions of our 3D brand are
1. R&D 2. Consistency of Quality 3. Assured Deliveries.
and to understand the exact needs of the users to recommend/guide them in the proper direction with latest available technique in cable termination.

QUALITY BENEFITS OF 3D TERMINALS

Don't compromise on quality for the sake of price. A cheap quality terminal can affect the optimum functioning of your product. At billets Elektro Werke Pvt. Ltd. we have an experience of more than 40 years in designing and manufacturing cable terminals and crimping tools. We have stringent in-house quality and inspection standards. And we don't compromise...

Conductivity: All our input raw materials are checked for conductivity. We primarily use ETP grade, 99.9% conductivity copper and 60% conductivity aluminium. Incoming material is checked for conductivity and dimensional accuracy.

Finish: All terminals go through deburring and polishing operations to eliminate sharp edges.

Accuracy: Our tool room has two wire cutting EDM's (Charmilles, Germany), a machining center (Haas, USA), and two spark erosion machines, besides a wide array of lathes, milling machines, drilling machines, grinding machines etc. Our press tools are designed keeping in mind high accuracy, productivity and quality which makes the final product within excellent dimensional tolerance.

Brazing: we use high quality brazing wire containing 2% silver. This ensures a high flowing rate after melting and an even layer. This leaves a brazing seam with no lumps which may spoil the finish of the terminal or affect the crimpability. We also normalize the terminals after brazing and conduct a bend test at the seam to ensure that there is no cracking.

Crimpability: We ensure that our material is at the optimum softness so that operator can crimp the terminal with minimal effort without even hair crack and at the same time ensures that it is hard enough to sustain deformation.

Plating: Our terminals have a tin coating of minimum 5 microns to ensure a longer shelf life. Thickness is checked by Coulometric testing and salt spray tests.

Insulation: Our insulation does not show any stress marks or colour changes even with extreme crimping. We also conduct heat aging and dielectric tests to ensure that the insulation does not degrade in high temperature environments.

Brazing	Crimpability	Plating	Insulation




FREQUENTLY ASKED QUESTIONS

1. Which material is used for insulation of sheet metal terminals?

We use sleeves made out of PVC for insulating sheet metal terminals. The operating temperature for these lugs is from 60 degrees C to 100 degrees C. For high temperature applications we can also provide Nylon or Polycarbonate insulating sleeves. For applications where there is a chance of the sleeve coming off due to vibrations (eg railway locomotive) we use a copper sleeve under the PVC insulation "Double grip terminals" for enhancing the rigidity.

2. Why is the colour of insulation different for various cable sizes?

As per international practice in use, ***Red*** colour is for terminals of 1.5 Sq.mm, ***Blue*** colour is for terminals of 2.5 Sq.mm & ***Yellow*** colour is for terminals of 4-6 Sq.mm,

3. How do we know the purity of copper or Aluminium used in our products?

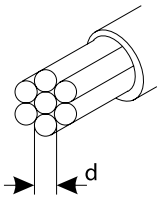
We manufacture our copper lugs and connectors from cathodes obtained from LME approved warehouses only. Our aluminium lugs and connectors are manufactured from ISI certified tube manufacturers, who use aluminium ingots of the highest purity. We have in-house testing facilities to check the conductivity for copper and aluminium.

4. Does 99% copper content guarantee 99% IACS conductivity?

No. Conductivity is affected by the type of impurities content in balance 1%. It has been observed that 0.5% arsenic may bring down the conductivity to the tune of 50% to 60%

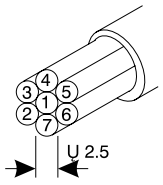
5. How to select the right lug for the right cable size?

CONDUCTOR CROSS SECTIONAL AREA mm^2



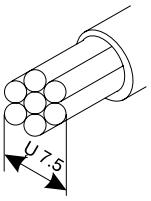
CONDUCTOR CONSTRUCTION

EXAMPLE 7/2.5



CONDUCTOR OD

EXAMPLE 7.5 U



Cross Sectional area of each wire $= \pi d^2/4 = \pi(2.5)^2/4 = 4.9\ mm^2$

EXAMPLE: $35mm^2$

Cross Sectional area of conductor = Area of each wire x No. of wires

$4.90 \times 7 = 34.3\ mm^2$ i.e. $35\ mm^2$

6. Flexible wire does not go into the barrel of the same size of terminal?

Outer diameter of flexible wire is maximum compared to the other (stranded or solid} shape. Our terminals are designed to easily receive stranded wires. It becomes difficult to insert the flexible wire into the barrel. Best practice is to form the wire with forming dies or use one higher size of terminal (however that may cause flashing). Use of terminals having easy entry barrels will also provide ease of insertion.

CRIMPING TECHNIQUES

1. How can we know that the crimped joint is proper or not?

A properly crimped joint is one in which the compressed section of the joint is so tightly packed that it almost becomes homogenous.

It can be ascertained by:

Pull Off Load Test - Crimped joint should withstand the pull off load of 4Kg./Sq.mm. Say for 240 Sq.mm. cable, it should withstand 240 X 4 = 960 Kg.

Joint Resistance - As per IS 8337 the resistance of crimped joint on aluminium wire should not be more than the resistance across the length of the conductor equal to the length of barrel of the terminal.

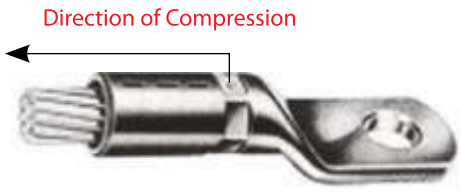
Visual Inspection - Cut a section of the crimped portion and examine the section for air gaps between the conductors, or between the ID wall of the lug and the conductors. Presence of air gaps indicates that the crimping is not homogenous. As shown in the picture:

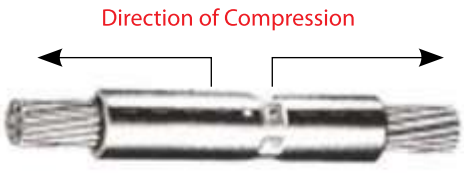
2. Can insulated terminals be crimped with the tools meant for non-insulated terminals?

NO. The tools designed for Non-insulated terminals will not properly crimp the terminals, it will also damage the insulating sleeve. Similarly tool designed for insulated terminal will not properly crimp the non insulated terminal since the crimp profile are different.

3. What should be the direction of crimping, when crimping multiple crimps on longer barrel lugs?

The direction of crimping should always be away from the palm portion of the barrel in the case of lugs, and should start from the centre in the case of connectors

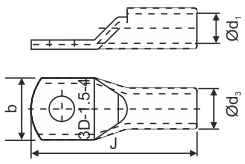




Precision in Every Dimension

Tubular Cable Lugs

Standard Type, With Inspection Hole for Copper Conductors
Material:E-copper
Surface: Tin Plated



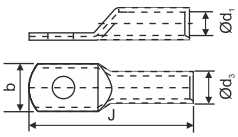
Marking mm2-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
1.5-4	3D-2622	1.8	3.7	8	16	3000
1.5-5	3D-2623	1.8	3.7	8	16	3000
1.5-6	3D-2624	1.8	3.7	10	18	3000
2.5-4	3D-2625	2.4	4	8	18	3000
2.5-5	3D-2627	2.4	4	8	18	3000
2.5-6	3D-2628	2.4	4	10	20	3000
2.5-8	3D-2629	2.4	4	11	24	2000
4-5	3D-2630	3.1	4.8	10	20	2000
4-5	3D-2632	3.1	4.8	9	20	2000
4-6	3D-2631	3.1	4.8	10	20	2000
4-8	3D-2633	3.1	4.8	12	24	2000
6-5	3D-2634	3.8	5.5	10	23	2000
6-6	3D-2635	3.8	5.5	10	23	2000
6-8	3D-2637	3.8	5.5	12	27	1600
6-10	3D-2638	3.8	6.2	16	32	1000
10-5	3D-2642	4.5	6.2	12	25	1600
10-6	3D-2643	4.5	6.2	12	25	1600
10-8	3D-2645	4.5	6.2	12	27	1200
16-5	3D-2652	5.4	7.1	12	30	1000
16-6	3D-2653	5.4	7.1	12	30	1000
16-8	3D-2655	5.4	7.1	12	32	1000
25-6	3D-2663	6.8	8.8	13	30	600
25-8	3D-2665	6.8	8.8	13	32	600
25-8	3D-2666	6.8	8.8	16	37	600
25-10	3D-2668	6.8	8.8	16	37	600
25-12	3D-2670	6.8	8.8	18	41	400
35-6	3D-2673	8.2	10.6	15	35	400
35-6	3D-2674	8.2	10.6	15	38	400
35-8	3D-2676	8.2	10.6	15	35	400
35-8	3D-2677	8.2	10.6	15	38	400
35-10	3D-2679	8.2	10.6	15	40	400
35-10	3D-2680	8.2	10.6	18	38	400
35-10	3D-2681	8.2	10.6	18	41	400
35-12	3D-2683	8.2	10.6	20	45	300
50-6	3D-2687	10	12.8	18	43	250

Marking mm^2-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
50-8	3D-2689	10	12.8	18	43	250
50-10	3D-2691	10	12.8	18	43	250
50-12	3D-2695	10	12.8	18	47	250
70-6	3D-2697	11.2	14.7	21	50	150
70-8	3D-2698	11.2	14.7	21	50	150
70-10	3D-2699	11.2	14.7	21	50	150
70-12	3D-2700	11.2	14.7	21	50	150
70-16	3D-2705	11.2	14.7	28	57	100
95-8	3D-2708	13.5	17.4	25	55	100
95-10	3D-2709	13.5	17.4	25	55	100
95-12	3D-2712	13.5	17.4	25	55	100
95-14	3D-2713	13.5	17.4	28	61	100
95-16	3D-2715	13.5	17.4	28	61	100
120-8	3D-2716	15	19.4	28	60	75
120-10	3D-2717	15	19.4	28	60	75
120-12	3D-2719	15	19.4	28	60	75
120-14	3D-2721	15	19.4	28	64	75
120-16	3D-2722	15	19.4	28	64	75
150-8	3D-2726	16.5	21.2	30	69	50
150-10	3D-2727	16.5	21.2	30	69	50
150-12	3D-2729	16.5	21.2	30	69	50
150-16	3D-2733	16.5	21.2	30	69	50
150-20	3D-2734	16.5	21.2	34	79	50
185-10	3D-2736	18.5	23.5	34	78	40
185-12	3D-2737	18.5	23.5	34	78	40
185-14	3D-2738	18.5	23.5	34	78	40
185-16	3D-2741	18.5	23.5	34	78	40
240-10	3D-2747	21	26.5	38	92	25
240-12	3D-2748	21	26.5	38	92	25
240-14	3D-2749	21	26.5	38	92	25
240-16	3D-2750	21	26.5	38	92	25
240-20	3D-2751	21	26.5	38	92	25
300-12	3D-2754	23.5	30	43	101	20
300-14	3D-2755	23.5	30	43	101	20
300-16	3D-2756	23.5	30	43	101	20
300-20	3D-2757	23.5	30	43	101	20
400-12	3D-2760	26.8	34.8	50.1	114	10
400-14	3D-2761	26.8	34.8	50.1	114	10
400-16	3D-2762	26.8	34.8	50.1	114	10
400-16	3D-2763	26.8	34.8	50.1	105	10
500-16	3D-2769	30	39	56	124	10
500-20	3D-2770	30	39	56	124	10
630-16	3D-2773	35	45	65	144	6
630-20	3D-2774	35	45	65	144	6

Precision in Every Dimension

Tubular Cable Lugs

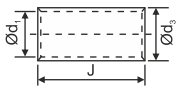
Extra Long Type,
W/O Inspection Hole
Material: E-copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
25-8	3D-2340	7	9	13	41	400
25-10	3D-2340A	7	9	13	41	400
35-8	3D-2341	8	10.6	15	48	300
35-10	3D-2341A	8	10.6	15	48	300
50-8	3D-2342	9.2	12.2	17	59	200
50-10	3D-2342A	9.2	12.2	17	59	200
50-12	3D-2342B	9.2	12.2	17	59	200
70-10	3D-2343	11.5	15	21	66	100
70-12	3D-2343A	11.5	15	21	66	100
95-12	3D-2344	12.8	17	24	74	80
95-16	3D-2344A	12.8	17	24	74	80
120-12	3D-2345	14.8	19.6	28	82	50
120-16	3D-2345A	14.8	19.6	28	82	50
150-12	3D-2346	16	21.2	30	86	40
150-16	3D-2346A	16	21.2	30	86	40
185-12	3D-2347	18	24	34	95	25
185-16	3D-2347A	18	24	34	95	25
185-20	3D-2347B	18	24	34	95	25
240-16	3D-2348	22	28	40	112	20
240-20	3D-2348A	22	28	40	112	20
300-16	3D-2998A	23.5	30.5	44	120	15
400-20	3D-3000A	27.5	38.5	55	140	10

Butt Connectors

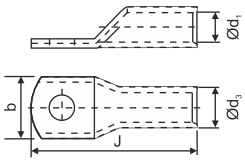
For Copper Conductors
With Without Wire Pic Non
Insulating Sleeve
Insulation: Hard PVC
Material: E-copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	J	Std Pk
1.5-TYPE-II	3D-1845	1.6	3.2	15	5000
2.5-TYPE-II	3D-1846	2.4	4	15	4000
4-TYPE-II	3D-1847	3.5	5.5	15	3000
1.5-TYPE-I	3D-3762	1.6	3.2	25	1600
2.5-TYPE-I	3D-3763	2.4	4	25	1200
4-TYPE-I	3D-3764	3.5	5.5	27	800

Tubular Cable Lugs

Copper Light Duty W/O Inspection Hole
for Aluminum Conductors
Material: E-Copper
Surface: Tin Plated

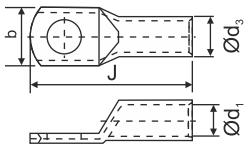


Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
2.5-5	3D-2501	2.3	3.8	9	20	3000
4-6	3D-2502	3.1	4.8	11	22	2000
6-6	3D-2503	3.8	5.5	11	24	1600
10-6	3D-2504	4.5	6.2	11	24	1600
16-6	3D-2505	5.4	7.1	11	30	1000
25-6	3D-2506	7	9	13	37	400
35-6	3D-2507	8	10	15	37	400
35-8	3D-2508	8	10	15	37	400
50-6	3D-2509	9.2	11.2	16	45	250
50-8	3D-2510	9.2	11.2	16	45	250
50-10	3D-2511	9.2	11.2	16	45	250
70-8	3D-2512	11.5	13.8	20	56	150
70-10	3D-2513	11.5	13.8	20	56	150
70-12	3D-2514	11.5	13.8	20	56	150
95-10	3D-2515	12.8	15.6	23	58	100
95-12	3D-2516	12.8	15.6	23	58	100
120-10	3D-2517	14.8	17.8	26	62	75
120-12	3D-2518	14.8	17.8	26	62	75
120-16	3D-2519	14.8	17.8	26	62	75
150-10	3D-2520	16	19.6	28	70	50
150-12	3D-2521	16	19.6	28	70	50
150-16	3D-2522	16	19.6	28	70	50
185-12	3D-2523	18	22	32	83	40
185-16	3D-2524	18	22	32	83	40
240-16	3D-2525	22	26	38	97	25
240-20	3D-2526	22	26	38	97	25
300-16	3D-2527	24	28.7	42	103	20
300-20	3D-2528	24	28.7	42	103	20
400-20	3D-2529	28	33.2	49	116	15
500-20	3D-2530	30	36	53	122	10
630-20	3D-2531	35	41.5	61	137	10
800-BLK	3D-2532	39	46.3	67	165	20
1000-BLK	3D-2533	43	53.8	76	210	15

Precision in Every Dimension

Compression Type

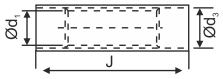
Aluminum Tubular Terminal Ends
for Crimping to Aluminum Conductors
Material: Aluminum
Surface: Natural



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
2.5-3	3D-2535	2.6	5.5	6.7	18	2000
4·4	3D-2536	2.9	5.5	7.2	18	2000
4·5	3D-2537	2.9	5.5	12	21	2000
6·6	3D-2538	3.5	5.5	12	23	1600
10· 6	3D-2539	4.4	7.2	9.7	30	1000
10· 8	3D-2540	4.4	7.2	15	30	800
16· 6	3D-2541	5.4	8.3	11.4	37	600
16· 8	3D-2542	5.4	8.3	11.7	37	600
16· 10	3D-2543	5.4	8.3	18	38	400
25· 6	3D-2544	7	9.7	13.7	44	400
25· 8	3D-2545	7	9.7	13.7	44	400
25· 10	3D-2546	7	9.7	14	44	400
25· 12	3D-2547	7	9.7	20	44	300
35-6	3D-2548	8	10.8	15.4	46	300
35-8	3D-2549	8	10.8	15.4	46	300
35-10	3D-2550	8	10.8	15.7	46	300
50-8	3D-2551	9.3	13	18.3	54	200
50-10	3D-2552	9.3	13	18.3	54	200
50-12	3D-2553	9.3	13	18.5	54	200
70-8	3D-2554	11.3	15.5	21.8	60	100
70-10	3D-2555	11.3	15.5	21.8	60	100
70-12	3D-2556	11.3	15.5	21.8	60	100
95-10	3D-2557	13.2	17.4	24.8	64	80
95-12	3D-2558	13.2	17.4	24.8	64	80
95-16	3D-2559	13.2	17.4	24.8	64	80
120-10	3D-2560	14.7	19.6	28	73	50
120-12	3D-2561	14.7	19.6	28	73	50
120-16	3D-2562	14.7	19.6	28	73	50
150-10	3D-2563	16.4	21.5	30.8	79	40
150-12	3D-2564	16.4	21.5	30.8	79	40
150-16	3D-2565	16.4	21.5	30.8	79	40
185-10	3D-2566	18.4	24	34.5	84	40
185-12	3D-2567	18.4	24	34.5	84	40
185-16	3D-2568	18.4	24	34.5	84	40
240-12	3D-2569	21	28	40	102	30
240-16	3D-2570	21	28	40	102	30
300-16	3D-2571	23.8	31	45	115	20
300-20	3D-2572	23.8	31	45	115	20
400-20	3D-2573	26.8	35.5	50.8	130	15
500-20	3D-2574	29.5	41	57.8	140	10
630-20	3D-2575	34.9	46	65.8	154	5
800-BLK	3D-2576	39	51	73.3	180	20
1000-BLK	3D-2577	43	57	81.5	220	15

Compression Type

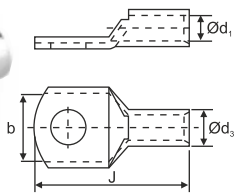
Aluminum Tubular in-Line Connectors
for Crimping to Aluminum Conductors
Material: Aluminum
Surface: Natural



Marking mm²-Ø	3D Cat.No.	d1	d3	J	Std Pk
2.5	3D-2578	2.6	5.5	16	2000
4	3D-2579	2.9	5.5	16	2000
6	3D-2580	3.5	5.5	20	1600
10	3D-2581	4.4	7.2	20	1000
16	3D-2582	5.4	8.3	26	600
25	3D-2583	7	9.7	34	400
35	3D-2584	8	10.8	39	300
50	3D-2585	9.3	13	44	200
70	3D-2586	11.3	15.5	53	100
95	3D-2587	13.2	17.4	58	80
120	3D-2588	14.7	19.6	63	50
150	3D-2589	16.4	21.5	67	40
185	3D-2590	18.4	24	72	40
240	3D-2591	21	28	86	30
300	3D-2592	23.8	31	96	20
400	3D-2593	26.8	35.5	110	10
630	3D-2595	34.9	46	134	5
800	3D-2596	39	51	153	15
1000	3D-2597	43	57	201	10

Tubular Cable Lugs

Extra wide palm type
With insspection Hole
Material - E-copper
Surface - Tin Plated

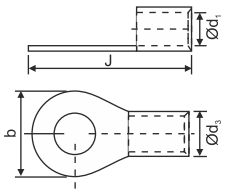


Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
10 -10	3D-2648	4.7	7.1	16	32	800
16 -10	3D-2658	5.5	7.9	16	36	600
16 -12	3D-2659	5.5	8.5	18	40	400

Precision in Every Dimension

Terminal Ends, Ring Type

Standard Type, W/O Sleeve,
Brazed Seam
Material: E-copper
Surface: Tin Plated



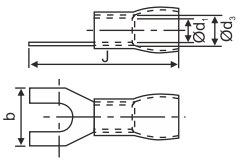
Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5 to1.5-3	3D-1247	1.6	3.2	6	14	5000
0.5 to1.5-3.5	3D-1269	1.6	3.2	6	14	5000
0.5 to 1.5-4	3D-1241	1.6	3.2	6	14	5000
0.5 to 1.5-4	3D-1258	1.6	3.2	6.8	13	5000
0.5 to 1.5-4	3D-1246	1.6	3.2	8	16	5000
0.5 to 1.5-4	3D-1261	1.6	3.2	7	14.5	5000
0.5 to 1.5-5	3D-1262	1.6	3.2	8	16	5000
0.5 to 1.5-5	3D-1267	1.6	3.2	10	18	4000
0.5 to 1.5-6	3D-1224	1.6	3.2	10	18	5000
0.5 to 1.5-6	3D-1268	1.6	3.2	12	18	4000
2.5-4	3D-1296	2.3	3.9	8	16	5000
2.5-5	3D-1304	2.3	3.9	8	16	5000
2.5-5	3D-1310	2.3	3.9	10	18	4000
2.5-6	3D-1342	2.3	3.9	10	18	4000
2.5-6	3D-1305	2.3	3.9	12	22	3000
2.5-8	3D-1307	2.3	3.9	12	22	3000
2.5-10	3D-1287	2.3	3.9	16	25	2000
2.5-12	3D-1438	2.3	3.9	18	29	1000
4 to 6-4	3D-1432	3.5	5.5	8	17	3000
4 to 6-5	3D-1431	3.5	5.5	8	17	3000
4 to 6-5	3D-1408	3.5	5.5	10	19	2000
4 to 6-6	3D-1415	3.5	5.5	12	20	2000
4 to 6-6	3D-1417	3.5	5.5	12	22	2000
4 to 6-8	3D-1416	3.5	5.5	12	20	2000
4 to 6-8	3D-1421	3.5	5.5	14	25.5	1600
4 to 6-10	3D-1427	3.5	5.5	16	30	1200
4 to 6-12	3D-1430	3.5	5.5	18	30	1000
10-5	3D-1460	4.3	6.3	10	20	2000
10-6	3D-1465	4.3	6.3	12	23	1600
10-8	3D-1466	4.3	6.3	16	27	1200
10-10	3D-1461	4.3	6.3	18	30	1000
10-12	3D-1462	4.3	6.3	22	34	800
16-5	3D-1516	5.6	8	10	24	1000

Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
16-6	3D-1511	5.6	8	12	26	1000
16-8	3D-1512	5.6	8	16	30	800
16-10	3D-1514	5.6	8	18	33	600
16-12	3D-1515	5.6	8	22	35	400
25-6	3D-1561	7.5	11.1	12	31	400
25-6	3D-1557	7.5	11.1	16	30	400
25-8	3D-1556	7.5	11.1	12	31	400
25-8	3D-1552	7.5	11.1	16	30	400
25-8	3D-1554	7.5	11.1	16	33	400
25-10	3D-1553	7.5	11.1	16	30	400
25-10	3D-1559	7.5	11.1	18	34	400
25-12	3D-1555	7.5	11.1	22	42	300
35-6	3D-1584	9	12.6	16	31	400
35-8	3D-1581	9	12.6	16	31	400
35-8	3D-1585	9	12.6	18	36	400
35-10	3D-1582	9	12.6	18	36	300
35-10	3D-1586	9	12.6	22	42	300
35-12	3D-1583	9	12.6	22	42	300
50-8	3D-1609	10.5	14.1	18	43	200
50-10	3D-1607	10.5	14.1	18	43	200
50-10	3D-1610	10.5	14.1	22	43	200
50-12	3D-1608	10.5	14.1	24	48	200
70-10	3D-1637	12	16	22	47	150
70-12	3D-1636	12	16	22	47	150
95-10	3D-1651	13.5	18.1	22	46	100
95-10	3D-1652	13.5	18.1	24	50	100
95-12	3D-1650	13.5	18.1	24	50	100
120-12	3D-1658	15	20.2	26	52	100

Precision in Every Dimension

Terminal Ends, Fork Type

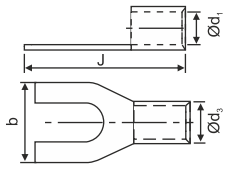
Standard Type, With Insulating Sleeve
Material: E-Copper
With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5-3	3D-3640	1.6	3.2	6	19	2000
0.5to1.5-3.5	3D-3641	1.6	3.2	6	19	2000
0.5to1.5-3.5	3D-3639	1.6	3.2	6.8	19	2000
0.5to1.5-4	3D-3647	1.6	3.2	6.5	20	2000
2.5-3.5	3D-3657	2.3	3.9	6.5	20	2000
2.5-5	3D-3664	2.3	3.9	10	24	1600
4to6-3.5	3D-3675	3.5	5.5	6	24	1000
4to6-4	3D-3679	3.6	5.6	8	27	1000
4to6-5	3D-3721	3.5	5.5	8	25	1000

Terminal Ends, Fork Type

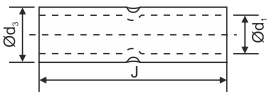
Standard Type, Brazed Seam
Material: E-Copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5-3	3D-1923	1.6	3.2	6	14	5000
0.5to1.5-3.5	3D-1699	1.6	3.2	6.8	14.5	5000
0.5to1.5-3.5	3D-1700	1.6	3.2	6	14	5000
0.5to1.5-4	3D-1704	1.6	3.2	6.5	15	5000
2.5-3.5	3D-1884	2.3	3.9	6.5	15	5000
2.5-5	3D-1892	2.3	3.9	10	19	3000
4to6-3.5	3D-1907	3.5	5.5	6	15	3000
4to6-4	3D-1914	3.6	5.6	8	18	2000
4to6-5	3D-1734	3.5	5.5	8	17	2000
16-5	3D-1922	5.3	7.7	10	26	1000

Connectors, Non-Tention Type

Standard Type with Cable Stopper
Material: E-Copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	J	Std Pk
1.5	3D-2802	1.8	3.7	12	2000
2.5	3D-2804	2.4	4	15	2000
4	3D-2806	3.1	4.8	15	2000
6	3D-2808	3.8	5.5	15	2000
10	3D-2810	4.5	6.2	20	1600
16	3D-2812	5.4	7.1	20	1200
25	3D-2817	6.8	8.8	32	400
35	3D-2820	8.2	10.6	36	300
50	3D-2823	10	12.8	40	200
70	3D-2826	11.2	14.7	40	100
95	3D-2828	13.5	17.4	45	100
120	3D-2830	15	19.4	45	80
150	3D-2833	16.5	21.2	55	50
185	3D-2836	18.5	23.5	65	40
240	3D-2838	21	26.5	80	25
300	3D-2841	23.5	30	85	20
400	3D-2843	26.8	34.8	91	10

Terminal Ends, Fork Type

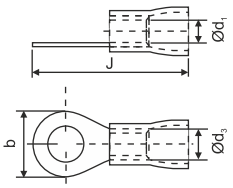
Double Grip With Insulating Sleeve
Material: E-Copper + PVC
Surface: Tin Plated

Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5 to1.5-3.5	3D-3685	1.6	3.2	6.8	19	2000
2.5 - 3.5	3D-3687	2.3	3.9	6.5	20	2000
4 to 6 - 3.5	3D - 3690	3.5	5.5	6	24	1000

Precision in Every Dimension

Terminal Ends, Ring Type

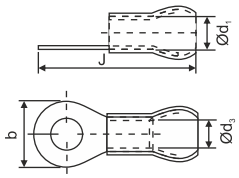
Standard Type, With Insulating Sleeve
Material: E-Copper With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5 to 1.5-3	3D-3078	1.6	3.2	6	19	2000
0.5 to 1.5 -3.5	3D-3079	1.6	3.2	6	19	2000
0.5 to 1.5-4	3D-3080	1.6	3.2	6	19	2000
0.5 to 1.5-4	3D-3083	1.6	3.2	6.8	18	2000
0.5 to 1.5-4	3D-3085	1.6	3.2	8	21	2000
0.5 to 1.5-4	3D-3087	1.6	3.2	7	19.5	2000
0.5 to 1.5-5	3D-3086	1.6	3.2	8	21	2000
0.5 to 1.5-5	3D-3074	1.6	3.2	10	23	2000
0.5 to 1.5-6	3D-3089	1.6	3.2	10	23	2000
0.5 to 1.5-6	3D-3090	1.6	3.2	12	23	2000
2.5-4	3D-3129	2.3	3.9	8	21	2000
2.5-5	3D-3130	2.3	3.9	8	21	2000
2.5-5	3D-3131	2.3	3.9	10	23	1600
2.5-6	3D-3132	2.3	3.9	10	23	2000
2.5-6	3D-3134	2.3	3.9	12	27	1200
2.5-8	3D-3135	2.3	3.9	12	27	1200
2.5-10	3D-3138	2.3	3.9	16	30	1000
2.5-12	3D-3140	2.3	3.9	18	34	1000
4 to 6-4	3D-3196	3.5	5.5	8	25	1000
4 to 6-5	3D-3197	3.5	5.5	8	25	1000
4 to 6-5	3D-3199	3.5	5.5	10	27	1000
4 to 6-5	3D-3204	3.5	5.5	12	30	800
4 to 6-6	3D-3202	3.5	5.5	12	28	800
4 to 6-6	3D-3205	3.5	5.5	12	30	800
4 to 6-8	3D-3203	3.5	5.5	12	28	800
4 to 6-8	3D-3207	3.5	5.5	14	33.5	800
4 to 6-10	3D-3210	3.5	5.5	16	38	600
4 to 6-12	3D-3213	3.5	5.5	18	38	600

Terminal Ends, Ring Type

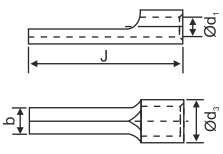
Double Grip With Insulating Sleeve
Material: E-Copper + PVC
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5-3	3D-3338	1.6	3.2	6	19	2000
0.5to1.5-3.5	3D-3339	1.6	3.2	6	19	2000
0.5to1.5-4	3D-3340	1.6	3.2	6	19	2000
0.5to1.5-4	3D-3343	1.6	3.2	6.8	18	2000
0.5to1.5-4	3D-3345	1.6	3.2	8	21	2000
0.5to1.5-5	3D-3346	1.6	3.2	8	21	2000
0.5to1.5-6	3D-3350	1.6	3.2	10	23	2000
0.5to1.5-6	3D-3351	1.6	3.2	12	23	2000
2.5-4	3D-3385	2.3	3.9	8	21	2000
2.5-5	3D-3386	2.3	3.9	8	21	2000
2.5-5	3D-3387	2.3	3.9	10	23	2000
2.5-6	3D-3388	2.3	3.9	10	23	2000
2.5-6	3D-3390	2.3	3.9	12	27	1600
2.5-8	3D-3391	2.3	3.9	12	27	1600
2.5-10	3D-3394	2.3	3.9	16	30	1000
4to6-4	3D-3493	3.5	5.5	8	26	1000
4to6-5	3D-3494	3.5	5.5	8	26	1000
4to6-5	3D-3496	3.5	5.5	10	28	1000
4to6-6	3D-3499	3.5	5.5	12	29	800
4to6-6	3D-3502	3.5	5.5	12	31	800
4to6-8	3D-3504	3.5	5.5	14	34.5	800

Terminal Ends, Rectangular Pin Type

Brazed Seam,
Material : E Copper
Surface : Tin Plated

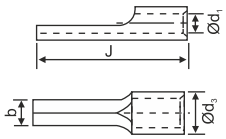


Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
10	3D - 1041	4.3	6.7	4.3	22	1600
16	3D - 1043	5.8	8.2	5.5	26	1000
25	3D - 1044	7.5	11.1	7	31	400
35	3D - 1045	9	12.6	8	37	400
50	3D - 1046	10.5	14.1	9	42	200

Precision in Every Dimension

Terminal Ends, Round Pin Type

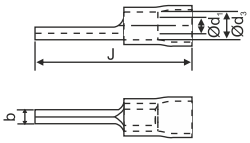
W/O Sleeve, Brazed Seam
Material: E-Copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5 to 1.5	3D-1012	1.6	3.2	1.9	17	5000
2.5	3D-1021	2.3	3.9	1.9	17	5000
4	3D-1030	2.9	4.9	2.7	20	3000
6	3D-1036	3.6	5.6	2.7	20	3000

Terminal Ends, Round Pin Type

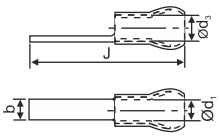
Double Grip, With Insulating Sleeve
Material: E-Copper With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5	3D-3040	1.6	3.2	1.9	22	2000
2.5	3D-3043	2.3	3.9	1.9	22	2000
4	3D-3046	2.9	4.9	2.7	29	1000

Terminal Ends, Insulated Flat Pin Type Double Grip

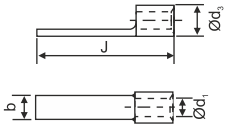
With Insulating Sleeve
Material: E-Copper With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
2.5	3D-3044	2.3	3.9	3.1	22	2000

Terminal Ends, Flat Pin Type

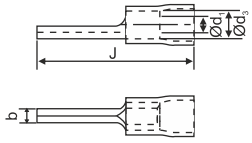
Standard Type w/o Sleeve, Brazed Seam
Material: E-Copper
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5	3D-1011	1.6	3.2	3.1	17	5000
2.5	3D-1022	2.3	3.9	3.1	17	5000

Terminal Ends, Round Pin Type

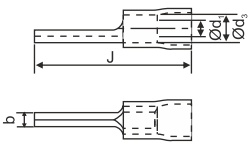
With Insulating Sleeve
Material: E-Copper With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5	3D-3008	1.6	3.2	1.9	22	2000
2.5	3D-3022	2.3	3.9	1.9	22	2000
4	3D-3026	2.9	4.9	2.7	28	1000

Terminal Ends, Insulated Flate Pin Type

With Insulating Sleeve
Material: E-Copper With PVC Sleeve
Surface: Tin Plated



Marking mm²-Ø	3D Cat.No.	d1	d3	b	J	Std Pk
0.5to1.5	3D-3009	1.6	3.2	3.1	22	2000
2.5	3D-3023	2.3	3.9	3.1	22	2000

Precision in Every Dimension

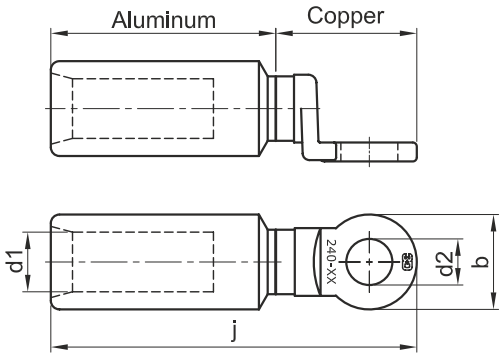
Bimetallic Lug Heavy Duty Series

Our Bimetallic Lugs and connectors are made from the Highest Quality Electrolytic Grade Copper & Aluminum which are joined using a friction welding process. The barrels are chemically treated to reduce resistance & corrosion.

The most crucial process in the manufacturing of bimetallic lugs is friction welding and our in-house friction welding machine is CNC controlled and is second to none. The advantage of our machine is that the turning attachment first takes a light cut on the copper palm on the machine itself which minimizes atmospheric oxidation thus resulting in a very sound weld joint. Apart from this the entire machine is PLC Controlled and has servo -controlled motors, this results in strict parameter control again resulting in a sound weld joint.

Material: ETP Copper & Aluminum

Finish: Natural



3D Cat.No.	j	Ø d1	b
3D BL 6-XX	**75**	**3.5**	**20**
3D BL 10-XX	**75**	**4.5**	**20**
3D BL 16-XX	**75**	**5.5**	**20**
3D BL 25-XX	**75**	**7.5**	**20**
3D BL 35-XX	**75**	**8.5**	**20**
3D BL 50-XX	**75**	**9.5**	**24**
3D BL 70-XX	**75**	**11.5**	**24**
3D BL 95-XX	**115**	**13.5**	**24**
3D BL 120-XX	**115**	**15.5**	**30**
3D BL 150-XX	**120 1**	**6.5**	**30**
3D BL 185-XX	**120**	**18.5**	**35**
3D BL 240-XX	**135**	**22**	**35**
3D BL 300-XX	**135**	**23.5**	**36**
3D BL 400-XX-B	**145**	**26**	**36**
3D BL 400RT-XX	**160**	**26.5**	**50**
3D BL 500RT-XX	**160**	**30**	**50**
3D BL 500-XX*	**160**	**30**	**50**
3D BL 630-XX*	**175**	**34**	**60**

*Rectangle Palm

Table 1

Nom. Bolt Size	Dia d2
M6	6.5
M8	8.5
M10	10.5
M12	13
M14	15
M16	17
M20	21

Notes:-

- Corrossion Inhibiting Grease on request
- Material - ETP Copper and Aluminum
- Finish - Natural
- In Cat.No. 'XX' denotes Stud Size
- If specified, hole to be punched in accordance with Table1. Part number to denote suffix of bolt size. Eg.3D BL 70-12
- The drawing is only a representation of the actual Product, and hence may not look exactly like the final Product
- All Dimensions indicated in the catalogue are nominal dimensions, Product produced may vary in size within the Stipulated Tolerance.
- * symbol for Square type Palm

Precision in Every Dimension

Bimetallic Lug - Economic Series

3D Cat. No.		j	Ø d1	b
		±4	±0.2	±1
3D BL	6-XX	75	3.5	20
3D BL	10-XX	75	4.5	20
3D BL	16-XX	75	5.5	20
3D BL	25-XX	75	7.5	20
3D BL	35-XX	75	8.5	20
3D BL	50-XX	75	9.5	24
3D BL	70-XX	75	11.5	24
3D BL	95-XX EC	95	13.5	24
3D BL	120-XX EC	106	15.5	24
3D BL	150-XX EC	107	16.5	24
3D BL	185-XX EC	114	18.5	30
3D BL	240-XX EC	119	22	30
3D BL	300-XX EC	123	23.5	35
3D BL	400-XX EC	145	26	36
3D BL	500-XX EC	141	30	36
3D BL	630-XX EC *	160	34	50 Sq

Our Bimetallic Lugs and connectors are made from the Highest Quality Electrolytic Grade Copper & Aluminum which are joined using a friction welding process. The barrels are chemically treated to reduce resistance & corrosion.

The most crucial process in the manufacturing of bimetallic lugs is friction welding and our in-house friction welding machine is CNC controlled and is second to none. The advantage of our machine is that the turning attachment first takes a light cut on the copper palm on the machine itself which minimizes atmospheric oxidation thus resulting in a very sound weld joint. Apart from this the entire machine is PLC Controlled and has servo -controlled motors, this results in strict parameter control again resulting in a sound weld joint.

Material: ETP Copper & Aluminum

Finish: Natural

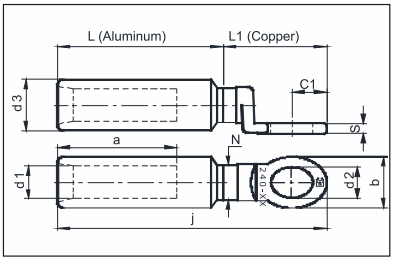


Table 1	
Nom. Bolt Size	Dia d2 ±0.25
M6	6.5
M8	8.5
M10	10.5
M12	13
M16	17
M20	21

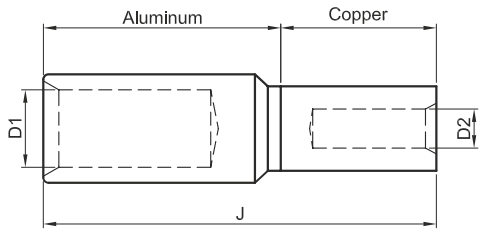
Notes:-
- Corrossion Inhibiting Grease on request
- Material - ETP Copper and Aluminum
- Finish - Natural
- In Cat.No. 'XX' denotes Stud Size If specified, hole to be punched in accordance with Table1. Part number to denote suffix of bolt size. Eg.3D BL 70-12
- The drawing is only a representation of the actual Product, and hence may not look exactly like the final Product
- All Dimensions indicated in the catalogue are nominal dimensions, Product produced may vary in size within the Stipulated Tolerance.
- * symbol for Square type Palm

Bimetallic Connectors

Material: ETP Copper & Aluminum

Finish: Natural

Conductor MM²	3DCAT NO.	Dimensions in mm		
		ØD1	ØD2	J
35-35	3DBF 35-35	8.5	8.5	70
50-35	3DBF 50-35	9.5	8.5	70
50-50	3DBF 50-50	9.5	9.5	70
70-50	3DBF 70-50	11.5	9.5	70
70-70	3DBF 70-70	11.5	11.5	70
95-70	3DBF 95-70	13.5	11.5	110
95-95	3DBF 95-95	13.5	13.5	110
120-95	3DBF 120-95	15.5	13.5	110
120-120	3DBF 120-120	15.5	15.5	110
150-120	3DBF 150-120	16.5	15.5	120
150-150	3DBF 150-150	16.5	16.5	120
185-150	3DBF 185-150	18.5	16.5	120
185-185	3DBF 185-185	18.5	18.5	120
240-185	3DBF 240-185	22	18.5	120
240-240	3DBF 240-240	22	21.5	120
300-240	3DBF 300-240	23.5	21.5	120
300-300	3DBF 300-300	23.5	23.5	120
400-300	3DBF 400-300	26.5	23.5	155
400-400	3DBF 400-400	26.5	26.5	155



Notes:-
- Material - ETP Copper and Aluminum
- Finish - Natural
- The drawing is only a representation of the actual Product, and hence may not look exactly like the final Product
- All Dimensions indicated in the catalogue are nominal dimensions, Product produced may vary in size within the Stipulated Tolerance.

Precision in Every Dimension

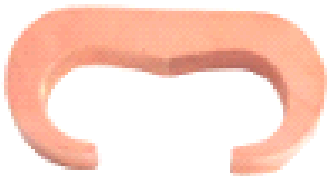
C-Connectors

Copper C-Connectors are specifically designed for application requiring corrosion resistant & high current jointing or tapping of buried cooper earthing grids, or to earth rods. The ‘C’ connectors are made from 99.9% high conductivity copper. We can also provide serrations on the inside of the connector, which upon crimping shall break the oxide layer of the conductor.

- Material :- ETP Copper
- Finish :- Natural or Tin Plated

Tap off Type

Conventional Type



E Type

Offset E Type

Precision in Every Dimension

Copper / Sillcon Bronze (C65300) Split Bolt (Cold Formed)

Features

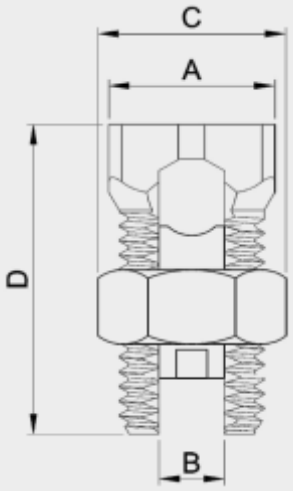
- UL listed for copper stranded wires only.
- Manufacture from high strength, high conductivity copper.
- Precision tooled Cold Formed threads.

Standards

- Tested and Listed to UL 486A, UL486B requirements.
- CSA C22.2 Listed for Grounding and Bonding, this dose not apply to 3D SB-1000.
- ROHS compliance.

Application

- Suitable for direct burial application in eaeth and concrete.
- Splicing, tapping or terminating conductors in power and electrical connection.



CATALOG NUMBER	WIRE RANGE			Recommended Torque	Dimensions (inch)			
	RANGE OF EQUAL MAIN AND TAP		MIN TAP WITH ONE MAX MAIN		A	B	C	D
	MIN	MAX		In-lbs (N-m)				
3D SB-8	16 STR/SOL	8 STR/SOL	16 SOL/STR	80 (9)	0.38	0.15	0.50	0.85
3D SB-6	10 SOL/STR	6 SOL/STR	16 SOL/STR	165 (18.6)	0.50	0.17	0.63	1.05
3D SB-4	8 SOL/STR	4 STR	16 SOL/STR	165 (18.6)	0.56	0.22	0.69	1.05
3D SB-2	6 SOL/STR	2 STR	14 SOL/STR	275 (31.1)	0.69	0.33	0.82	1.32
3D SB-3	4 STR	2 STR	8 SOL/STR	275 (31.1)	0.60	0.26	0.75	1.50
3D SB-1/0	4 STR	1/0 STR	14 SOL/STR	385 (43.5)	0.73	0.38	0.94	1.77
3D SB-2/0	2 STR	2/0 STR	14 SOL/STR	385 (43.5)	0.82	0.44	1.05	1.94
3D SB-3/0	2 STR	3/0 STR	8 SOL/STR	500 (56.5)	0.82	0.48	1.05	1.94
3D SB-250	1/0 STR	250 kcmil	8 SOL/STR	650 (73.4)	1.00	0.60	1.39	2.25
3D SB-350	4/0 STR	350 kcmil	1/0 STR	650 (73.4)	1.41	0.71	1.70	2.60
3D SB-500	250 kcmil	500 kcmil	2/0 STR	825 (93.2)	1.48	0.85	1.82	2.83
3D SB-750	350 kcmil	750 kcmil	4/0 STR	1000 (113)	1.94	1.02	2.31	3.51
3D SB-1000	500kcmil	1000 kcmil	4/0 STR	1100 (124.3)	2.19	1.17	2.56	3.90

Dealer / Distributor

Precision in Every Dimension

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