

PSL FASTENERS INC.

Reliable Connections

ISO
13918

Shear Connector



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STUD WELDING PROCESS

Drawn Arc Stud Welding

Electric arc stud welding is generally used to weld large diameter studs to thick metal base. One end of the shear stud must be designed for arc welding.

Materials used for stud welding are Mild steel , Stainless steel & Aluminum.



a. The stud is held within the welding gun and the end of the stud is placed against the metal base.



b. The weld cycle starts by pressing the trigger button on the gun. The stud automatically retracts from the workpiece thereby establishing an arc. The arc produced, melts the stud and the base plate and the welding gun automatically plunges the stud into the molten pool of metal.

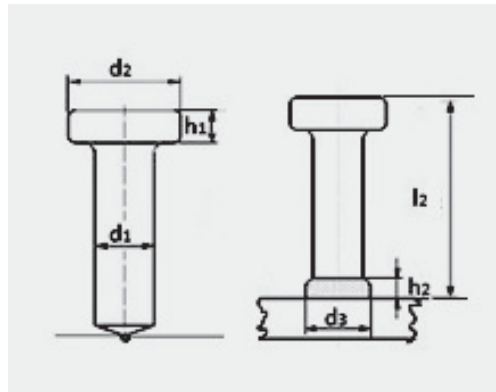


c. The weld cycle is completed in less than a second and the molten metal solidifies, and the weld is completed and the welding gun is removed from the stud. This results in a thick and strong weld which will develop the full strength of the stud and base plate



d. The ferrule helps in holding the molten metal which also serves to shield the arc. The weld metal is deoxidized by a flux in the end of the stud. The ferrule is then broken away and discarded.

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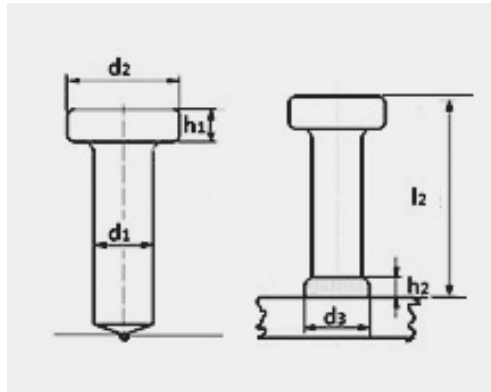
<i>d1</i>	<i>l2</i>	<i>h2</i>	<i>d2</i>	<i>d3</i>	<i>h1</i>	<i>Part number</i>	<i>1000 pieces weight</i>
6	25	2.5	13	8.5	5	PSL-06-025	22 lbs
	65					PSL-06-065	43 lbs
	75					PSL-06-075	50 lbs
	100					PSL-06-100	63 lbs
9.5 ----- 10	30	2.5	19	13	7	PSL-10-030	68 lbs
	35					PSL-10-035	77 lbs
	50					PSL-10-050	92 lbs
	60					PSL-10-060	111 lbs
	75					PSL-10-075	124 lbs
	100					PSL-10-100	154 lbs
	125					PSL-10-125	185 lbs
	150					PSL-10-150	212 lbs
	200					PSL-10-200	274 lbs
	12.7 ----- 13					25	3
36		PSL-13-036	138 lbs				
50		PSL-13-050	166 lbs				
60		PSL-13-060	198 lbs				
75		PSL-13-075	223 lbs				
100		PSL-13-100	277 lbs				
125		PSL-13-125	339 lbs				
155		PSL-13-155	388 lbs				
200		PSL-13-200	495 lbs				
16		30	4.5	32	21	8	
	45	PSL-16-045					248 lbs
	50	PSL-16-050					264 lbs
	65	PSL-16-065					319 lbs
	75	PSL-16-075					363 lbs
	90	PSL-16-090					398 lbs
	100	PSL-16-100					444 lbs
	115	PSL-16-115					487 lbs
	125	PSL-16-125					528 lbs
	150	PSL-16-150					604 lbs

- Other dimensions are available upon request
- Dimensions are in mm

PSL welding studs are made from materials suitable for stud welding.
Design and dimensions of our standard products conform to ISO 13918

Mechanical Characteristics

Tensile Strength	≥ 65,000 psi (450 N/mm ²)
Yield Strength	≥ 51,000 psi (350 N/mm ²)
Elongation	≥ 15%



d_1	l_2	h_2	d_2	d_3	h_1	Part number	1000 pieces weight
16	200	4.5	32	21	8	PSL-16-200	646 lbs
	225					PSL-16-225	781 lbs
	250					PSL-16-250	946 lbs
19	75	6	32	23	10	PSL-19-075	478 lbs
	90					PSL-19-090	548 lbs
	95					PSL-19-095	567 lbs
	100					PSL-19-100	600 lbs
	115					PSL-19-115	672 lbs
	125					PSL-19-125	735 lbs
	150					PSL-19-150	852 lbs
	175					PSL-19-175	968 lbs
	200					PSL-19-200	1,105 lbs
	225					PSL-19-225	1,222 lbs
	250					PSL-19-250	1,339 lbs
	300					PSL-19-300	1,599 lbs
22	75	6	35	29	10	PSL-22-075	660 lbs
	90					PSL-22-090	709 lbs
	100					PSL-22-100	796 lbs
	125					PSL-22-125	961 lbs
	150					PSL-22-150	1,137 lbs
	175					PSL-22-175	1,306 lbs
	200					PSL-22-200	1,496 lbs
	225					PSL-22-225	1,666 lbs
	250					PSL-22-250	1,836 lbs
	300					PSL-22-300	2,173 lbs
25 ----- 25.4	75	7	41	31	12	PSL-25-075	894 lbs
	100					PSL-25-100	1,079 lbs
	125					PSL-25-125	1,302 lbs
	150					PSL-25-150	1,514 lbs
	175					PSL-25-175	1,737 lbs
	200					PSL-25-200	1,978 lbs
225	PSL-25-225	2,193 lbs					

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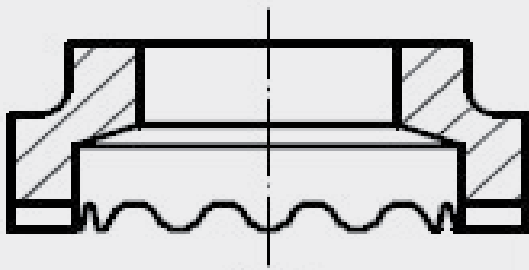
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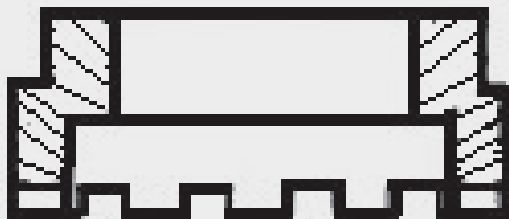
Ferrules

Ceramic ferrule is used with shear connector. The ceramic Ferrules can be used only once.

It is used to concentrate the heat generated and to prevent oxidation, thus holding the molten metal in the weld zone.



Standard Ferrule



Thru-deck Ferrule