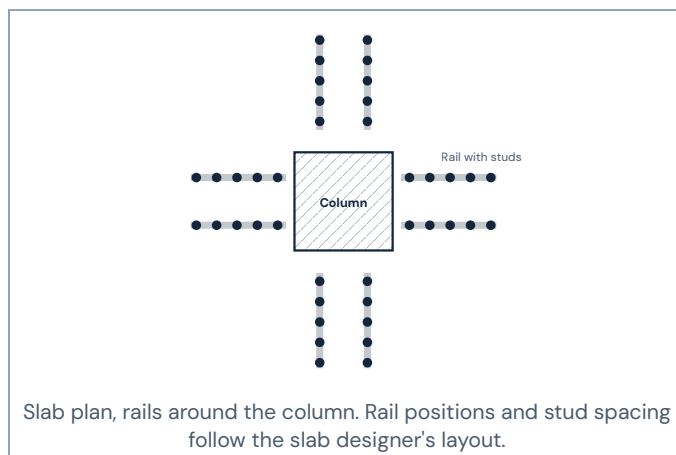
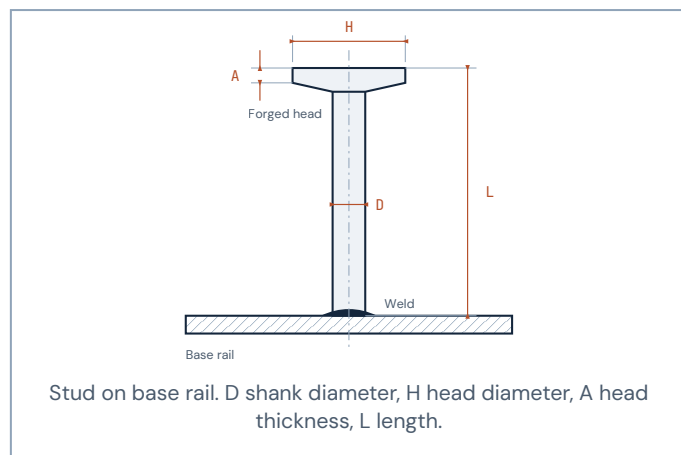


PSR studs (punching shear reinforcement studs) are forged headed studs welded to a flat base rail and cast into flat slabs and foundations around columns, where they take the place of stirrups against punching shear. S R Forgings manufactures the studs on the ASTM A1044 / A1044M basis and to customer drawing, and supplies them to the United States.



STUD SERIES, ASTM A1044 BASIS

SHANK DIAMETER D	HEAD DIAMETER H	HEAD THICKNESS A	HEAD AREA ÷ SHANK AREA	LENGTH L
9.5 mm (3/8")	30.1 mm (1.19")	5.3 mm (0.26")	10.1	To the design specification. Long lengths to drawing.
12.7 mm (1/2")	40.2 mm (1.58")	7.1 mm (0.33")	10.0	
15.9 mm (5/8")	50.2 mm (1.98")	8.9 mm (0.40")	10.0	
19.1 mm (3/4")	60.2 mm (2.37")	10.7 mm (0.47")	10.0	

ASTM A1044 requires a head area of at least 10 times the shank cross-sectional area, which works out to a head diameter of about $3.2 \times D$. Metric and intermediate diameters are forged to the same rule or to your drawing.

HEAD GEOMETRY

ASTM A1044 / A1044M	Head area $\geq 10 \times$ shank area ($H \approx 3.2 \times D$)
European system approvals	Typically $H = 3 \times D$, as the system approval states
Customer drawing	Governs in all cases

MATERIAL AND PROPERTIES

Low-carbon steel suited to forging and welding, from the AISI 1010 to 1020 family.

Tensile strength	$\geq 450 \text{ N/mm}^2$ (65 ksi)
Yield strength	$\geq 350 \text{ N/mm}^2$ (51 ksi)
Elongation	$\geq 20 \%$

Typical finished-stud requirements on the A1044 basis. The governing specification and the customer drawing prevail. Properties are verified lot-wise and certified to EN 10204 3.1.

SUPPLY

- Single headed for welding to rail, or double headed, to drawing
- Loose studs, or studs assembled to rails where the specification requires
- Length made to the before-weld dimension, with the burn-off allowance your welding process needs
- Head marking forged in: our mark, your mark or no mark

FOR A QUOTATION, SEND

- Shank diameter, head diameter and head thickness, or the drawing
- Overall length, and whether before or after welding
- Single or double headed; loose or on rails
- Governing specification and quantity

HEADS Forged in one piece with the shank. Not welded on.

