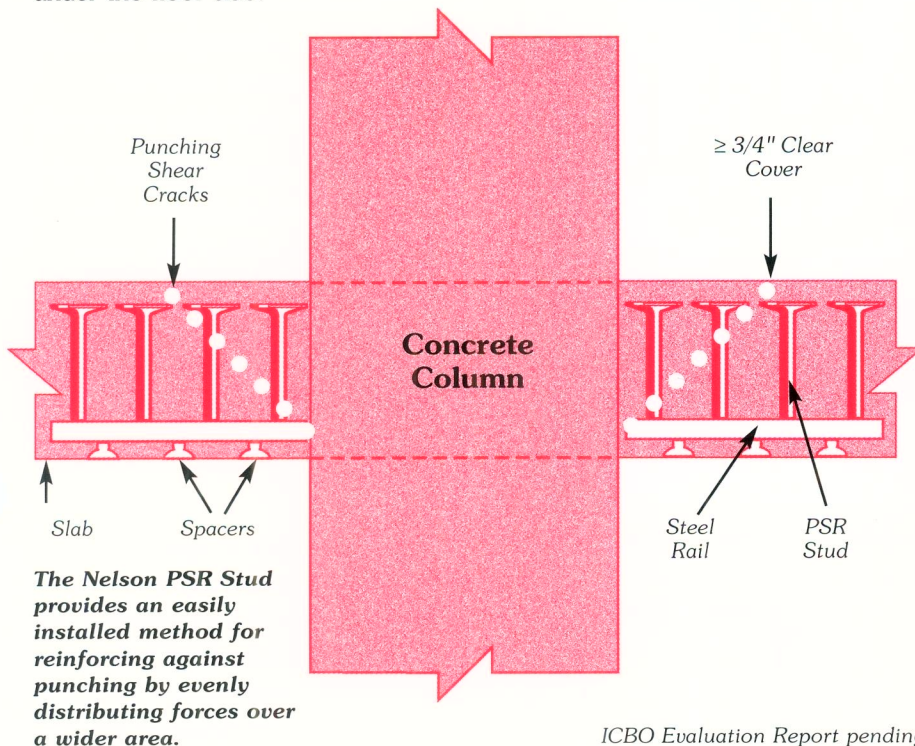


Nelson® PSR Studs

For reinforced concrete structures

Nelson Punching Shear Resistor Studs are used to fabricate reinforcing rails for reinforcing cast in place, concrete floor and foundation slabs where columns penetrate through to prevent "punching shear." PSR Studs significantly reduce the need for heavy reinforcement and a large column capital under the floor slab.

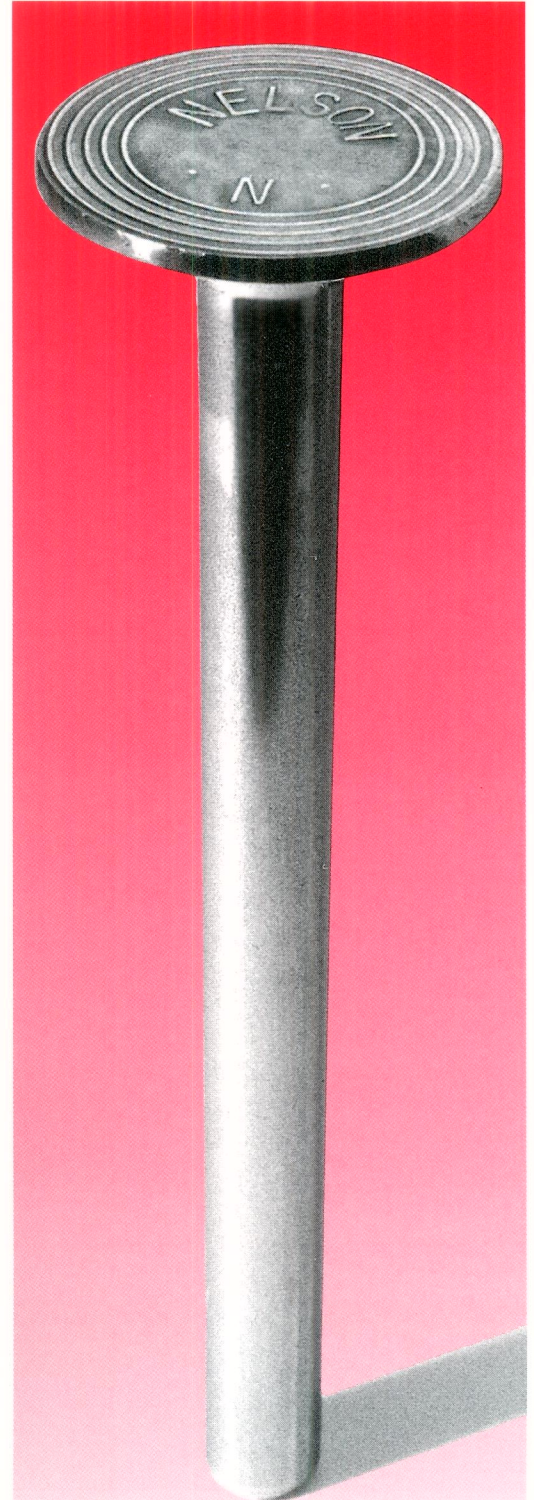


ICBO Evaluation Report pending

Advantages and Benefits

- Simplified reinforcement and faster installation around openings and columns
- Ductile behavior in the slab and thinner slabs when designed for shear controlled loading
- Easier installation of flexural reinforcement since there is no interference
- Ductile seismic behavior
- Possible elimination of column capitals, drop panels and stirrups
- Overall lower cost and faster installation

Nelson PSR Studs may be designed in accordance with ACI-318-99 Canadian code CSA A23.3-94 or ACI publication 421.1R-99. Stud materials meet AWS D1.1-2000 and CSA standard W59 requirements and are welded to a base plate anchorage rails 2.5 times the stud diameter in width and 0.5 times the stud diameter in thickness having a minimum yield strength of 40,000 psi per approved plate materials in the AWS D1.1 Canadian and world-wide codes. Successful use of the system has been demonstrated in many projects worldwide.

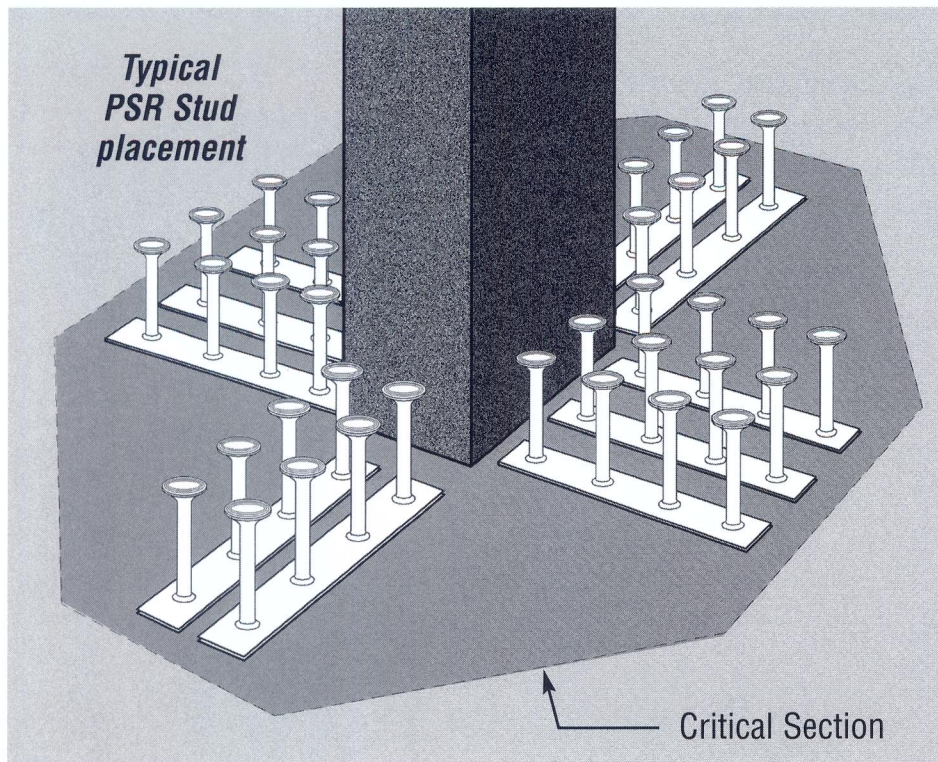


Nelson is an ISO Registered Manufacturer



Nelson[®] PSR (Punching Shear Resistor) Studs

For reinforced concrete structures



Application Details:

Punching Shear Resistor Studs.

Several studs of an established length and diameter are welded onto a flat steel rail at specific spacing to extend from the column perimeter into the floor or foundation slab. This reduces the amount of reinforcing bar required in an area and column congestion resulting in faster and easier installation.

There is a clear cover at the top and bottom of the installed system. The reinforcing bar is held off the wood form by a spacer or "chair" to ensure clear cover requirements. The spacer is fastened to the wood form, the floor cast and the forms stripped.

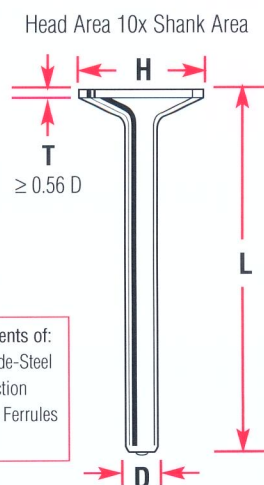
PSR Stud Specifications

Stud Diameter D	Head Diameter H	Head Thickness T
3/8" (9.5mm)	1.19"	0.21"
1/2" (12.7mm)	1.58"	0.28"
5/8" (15.9mm)	1.98"	0.35"
3/4" (19.1mm)	2.37"	0.42"

Materials: ASTM A-108, Grade 1015
 Properties: Yield 51,000 psi
 Tensile 65,000 psi
 Elongation 20% min.
 Rest of Area 50% min.

Nelson Studs comply with the requirements of:

- AWS D1.1-2000 Structural Welding Code-Steel
- CSA/CWB59-89 Welded Steel Construction
- ISO-13918 Welding-Studs and ceramic Ferrules for Arc Stud Welding



PSR studs can also be used as an embedment by welding a tap stud on the bottom of the rail. The welded tap stud can be used for suspending electrical, heating, plumbing and sprinkler runs replacing costly drilled or grouted anchors in the floor slab after casting.

ICBO Evaluation Report pending – Nelson is an ISO Registered Manufacturer

DESIGN DETAILS

The PSR Stud has been thoroughly tested using American, Canadian and European reinforced concrete construction code design engineering principles. Designers may access an automated design program through the Internet. Please contact a Nelson representative for this detail and application engineering assistance.

NELSON[®]
 STUD WELDING

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