

STUD WELDING

Concrete Anchors

NELSON STUD WELDING SPECIFICATION

S3L Shear Connectors

Nelson headed shear connectors deliver code specified shear strength values as used in composite construction, securing concrete to steel structural components. Nelson shear connectors meet requirements of the following codes:

- AWS D1.1 Structural Welding Code – Steel, Type B
- AWS D1.6 Structural Welding Code – Stainless Steel, Type A
- AASHTO/AWS D1.5 Bridge Welding Code, Type B
- AASHTO Standard Specification for Highway Bridges
- ISO-13918 Welding – Studs for Arc Stud Welding
- Canadian Standards Association W59 – Welded Steel Construction
- International Building Code Section 19
- AISC Manual of Steel Construction – Allowable Stress Design
- AISC Manual of Steel Construction – Load & Resistance Factor Design



See also: ICC-ES Evaluation Report ESR-2856 Nelson Shear Connector Studs

Shear connectors are typically used in composite steel construction for holding concrete slabs to steel members to resist shear forces and increase shear loading capacity in steel buildings, bridges, columns caissons, containment liners, etc. They also act as embedment anchors on miscellaneous embedded plates, frames, angles, strip plates, attachments and connections. Options for [Welding Through Metal Deck](#) are available for 3/4" diameter.

For similar function studs, see Nelson [H4L Headed Concrete Anchors](#) and [D2L Deformed Bar Anchors](#).

When ordering, specify Type, Diameter, Length, Material, Quantity, and Part Number
Example: S3L 3/4 x 6-3/16"; Mild Steel; 10,000 pieces; #101098015

Stud Diameter D	Burn Off	A	H	Recommended Standard Accessories			
				Chuck	Foot	Ferrule Holder	Ferrule for Flat
3/4" 19 mm	0.187 4mm	0.375	1.250	500001088	502002042	501006027	100101152
7/8" 22mm	0.187 4mm	0.375	1.375	500001091	502002042	501006028	100101140
1" 25mm	0.250 6mm	0.500	1.625	500001424	502002042	501006046	100101045

*Burn Off: Burn off lengths shown are for welding to bare steel. For burn off values and other details when studs are welded through metal deck to steel see **WELD THROUGH DECK SPECIFICATION SHEET**

MATERIALS: Studs are available in Low Carbon Mild Steel (ASTM A29, ASTM A108, AASHTO M169) and 316L Stainless Steel. For specific grade information and physical and chemical properties, conforming standards, please see [General Material Specifications](#). Certified Material Test Reports (CMTR) and Certificates of Compliance (COC) are available and must be requested at time of order.

For ferrules and grips used for welding through metal decking at an angle to plate, welding into angles, and welding to a vertical base plate, see the [Special Applications](#) section of the [Ferrule Specifications](#).

FLUX: All Nelson concrete anchors have a solid flux load.