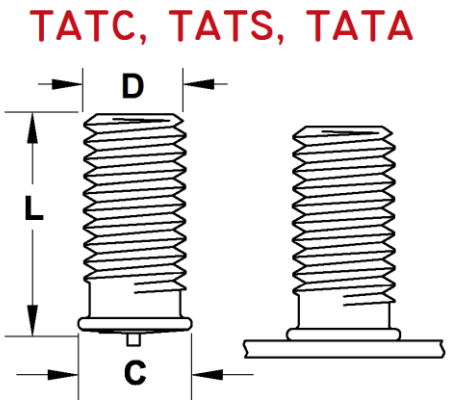
Studs

Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TATC, TATS, TATA Auto-Feed Threaded Capacitor Discharge Studs



These studs are designed to be welded to thin gauge sheet material by the initial "gap" or "contact" method of stud welding using tip ignition according to the capacitor discharge (CD) process. These applications generally provide a weld bond whose strength is greater than that of the base material to which they are welded.

These studs have a special flanged weld base that is about 1/32", or 1mm, greater than the nominal stud diameter. The mini flange diameter "C" allows automatic stud feeding for increased production speeds. The flange also increases the stress area welded to the base material. These Nelson studs are fully threaded, and come in lengths up to 1.25".

Whereas these studs are designated as auto-feed studs, they are manual feed capable. Shown below is the equipment required for manual loading of TATC, TATS, and TATA studs.

For similar function studs, see Nelson ANC Unthreaded Stored Arc™ studs, ATC Threaded Stored Arc™ studs, and AXC "Fir Tree" studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number
***Example*: TATC #10-32 x 5/16"; Mild Steel; 10,000 pieces; #101218258**

Thread Size	Stud Diameter D	Flange Diameter C	Minimum Length L	Required Standard Accessories	
				Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
#4-40	0.112	0.142	0.250	500001355	521322
#6-32	0.138	0.168	0.250	500001356	521323
#8-32	0.164	0.194	0.250	500001357	215502
#10-24	0.187	0.220	0.250	500001358	215503
#10-32	0.187	0.220	0.250	500001358	215503
1/4-20	0.250	0.280	0.250	500001359	215504
5/16-18	0.312	0.355	0.375	500001360	520327
3/8-16	0.375	0.418	0.375	500001369	N/A

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (inches)
500017017	1/4 to 5/8
500017018	3/4 to 1-1/8
500017019	1-1/4 to 1-5/8
500017020	1-3/4 to 2-1/8

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

THREADS: Standard external threads are typically UNC-2A, or UNF-2A for #10-32.

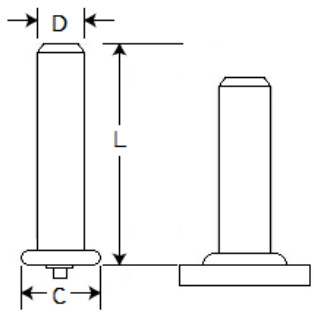
Studs

Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TFNC, TFNS, and TFNA Flanged Unthreaded Capacitor Discharge Studs

TFNC, TFNS, TFNA



These unthreaded studs are designed to be welded to thin sheet material by the initial "gap" or "contact" method of stud welding using tip ignition according to the capacitor discharge (CD) weld process. These applications generally provide a weld bond strength that is greater than the strength of the thin base material to which they are welded.

Flanged unthreaded capacitor discharge studs are commonly used as locator or stop points. They may also be tapped with internal threads, or have smaller diameter externally threaded extensions
.
These studs have a flanged weld base that is about 1/16" greater than the nominal stud diameter. The flange increases the weld bond area for greater reliability.

For superior welding results, mild steel studs are copper flash plated, stainless studs are passivated, and aluminum studs are acid etched.

For similar function studs, see Nelson ANC Unthreaded Stored Arc™ studs and AXC "Fir Tree" studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number
***Example*: TFNC 3/16 x 1-1/2"; Mild Steel; 10,000 pieces; #101218902**

Stud Diameter D	Flange Diameter C	Minimum Length L	Required Standard Accessories	
			Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
3/16	0.250	0.250	500001358	215503
1/4	0.312	0.250	500001359	215504
5/16	0.437	0.375	500001360	520327

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (inches)
500017017	1/4 to 5/8
500017018	3/4 to 1-1/8
500017019	1-1/4 to 1-5/8
500017020	1-3/4 to 2-1/8

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

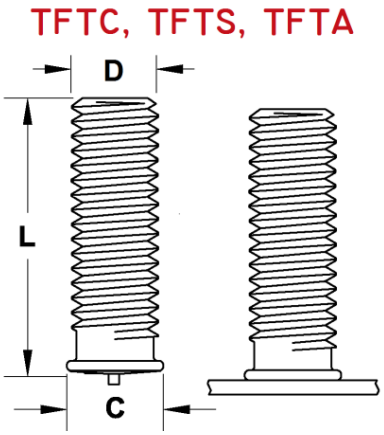
THREADS: Standard external threads are typically UNC-2A, or UNF-2A for #10-32.

Studs

Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TFTC, TFTS, and TFTA Flanged Threaded Capacitor Discharge Studs



These studs are designed to be welded to thin sheet material by the initial "gap" or "contact" method of stud welding using tip ignition according to the capacitor weld discharge process. These applications generally provide a weld bond strength that is greater than the strength of the thin base material to which they are welded.

These studs have a flanged weld base that is about 1/16" greater than the nominal stud diameter. The studs are fully threaded, and come in lengths up to two inches.

For similar function studs, see Nelson ANC Unthreaded Stored Arc™ studs and AXC "Fir Tree" studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number
***Example*: TFTC 10-24 x 1"; Mild Steel; 10,000 pieces; #101208250**

Thread Size	Stud Diameter D	Flange Diameter C	Minimum Length L	Required Standard Accessories	
				Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
#4-40	0.112	0.187	0.250	500001355	521322
#6-32	0.138	0.218	0.250	500001356	521323
#8-32	0.164	0.250	0.250	500001357	215502
#10-24	0.187	0.250	0.250	500001366	215503
#10-32	0.187	0.250	0.250	500001366	215503
1/4-20	0.250	0.312	0.250	500001359	215504
5/16-18	0.312	0.375	0.375	500001360	520327
3/8-16	0.375	0.437	0.375	500001369	N/A

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (inches)
500017017	1/4 to 5/8
500017018	3/4 to 1-1/8
500017019	1-1/4 to 1-5/8
500017020	1-3/4 to 2-1/8

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

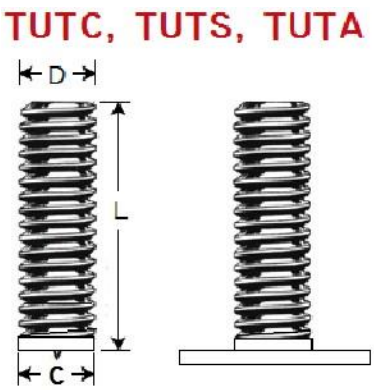
THREADS: Standard external threads are typically UNC-2A, or UNF-2A for #10-32.

Studs

Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TUTC, TUTS, and TUTA Unflanged Threaded Capacitor Discharge Studs



These unflanged studs are designed to be welded to thin sheet material by the initial "gap" or "contact" method of stud welding using tip ignition according to the capacitor discharge process. These applications generally provide a weld bond whose strength is sufficient for the application when considering the strength of the sheet to which they are welded.

These studs have a flanged weld base which is about the same as the stud diameter. The unflanged studs are used where weld fillet control is more important than weld strength and reliability. The studs are fully threaded, and come in lengths up to 2".

For similar function, see Nelson ANC Unthreaded Stored Arc studs and AXC "Fir Tree" studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number
***Example*: TUTC #4-40 x 1/2"; Mild Steel; 10,000 pieces; #101208604**

Thread Size	Stud Diameter D	Flange Diameter C	Minimum Length L	Required Standard Accessories	
				Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
#4-40	0.112	0.111	0.250	500001355	521322
#6-32	0.138	0.137	0.250	500001356	521323
#8-32	0.164	0.163	0.250	500001357	215502
#10-24	0.187	0.189	0.250	500001366	215503
#10-32	0.187	0.189	0.250	500001366	215503
1/4-20	0.250	0.250	0.250	500001359	215504
5/16-18	0.312	0.312	0.375	500001360	520327
3/8-16	0.375	0.375	0.375	500001369	N/A

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (inches)
500017017	1/4 to 5/8
500017018	3/4 to 1-1/8
500017019	1-1/4 to 1-5/8
500017020	1-3/4 to 2-1/8

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

THREADS: Standard external threads are typically UNC-2A, or UNF-2A for #10-32.

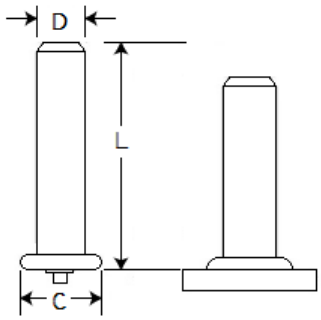
Studs

Metric Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TFNC, TFNS, TFNA Flanged Unthreaded Studs

TFNC, TFNS, TFNA



These unthreaded metric studs are designed to be welded to thin sheet material by the initial "gap" or "contact" method of stud welding using tip ignition capacitor discharge weld process. These applications generally provide a weld bond strength that is greater than the strength of the thin base material to which they are welded.

These studs have a flanged weld base that is about 2mm greater than the nominal stud diameter. The studs are fully threaded, and come in lengths up to 50mm.

For similar function studs, see Nelson ANC Unthreaded Stored Arc™ studs and TPC Tipped Insulation pins. In the imperial line of Nelson studs, see TATC Auto-Feed Capacitor Discharge studs and TFNC Flanged Unthreaded Capacitor Discharge studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number

***Example*: TFNC 10-24 x 1"; Mild Steel; 10,000 pieces; #101208250**

Stud Diameter D	Flange Diameter C	Minimum Length L	Required Standard Accessories	
			Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
3.00	5.00	6.00	500001355	215500
4.00	6.00	6.00	500001361	215501
5.00	7.00	6.00	500001358	215502
6.00	8.00	8.00	500001362	215503
8.00	10.50	10.00	500001360	250104

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (millimeters)
500017017	6 – 16
500017018	20 – 30
500017019	32 – 40
500017020	45 – 55

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

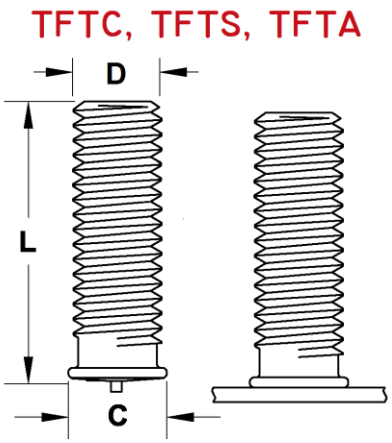
THREADS: Standard external metric threads meet ISO 6g.

Studs

Metric Capacitor Discharge

NELSON STUD WELDING SPECIFICATION

TFTC, TFTS, TFTA Flanged Threaded CD Studs



These threaded metric studs are designed to be welded to thin sheet material by the initial "gap" or "contact" method of stud welding using tip ignition capacitor weld discharge process. These applications generally provide a weld bond strength that is greater than the strength of the thin base material to which they are welded.

These studs have a flanged weld base that is about 2mm greater than the nominal stud diameter. The studs are fully threaded, and come in lengths up to 50mm.

For similar function studs, see Nelson ANC Unthreaded Stored Arc studs and TPC Tipped Insulation pins. In the imperial line of Nelson Studs, see TATC Auto-Feed Capacitor Discharge studs and TFNC Flanged Unthreaded Capacitor Discharge studs.

When ordering, specify: Type, Description, Material, Quantity, Part Number

***Example*: TFTC M4 x 16mm; Mild Steel; 10,000 pieces; #101217117**

Thread Size D	Stud Diameter D	Flange Diameter C	Flange Thickness	Minimum Length L	Required Standard Accessories	
					Chuck* Series 650 Style Gun	Chuck Assembly CD-Lite Gun
M3 x 0.50	3.00	5.00	0.9	6.00	500001355	215500
M4 x 0.70	4.00	6.00	0.9	6.00	500001361	215501
M5 x 0.80	5.00	7.00	1.0	6.00	500001358	215502
M6 x 1.00	6.00	8.00	1.2	8.00	500001362	215503
M8 x 1.25	8.00	10.50	1.3	10.00	500001360	250104

* A backup pin or stud stop is required for use with these chucks. The list below shows part numbers and corresponding stud lengths for each pin length.

Back-up Pin Part Number	For Stud Lengths (millimeters)
500017017	6 – 16
500017018	20 – 30
500017019	32 – 40
500017020	45 – 55

MATERIALS: Studs are available in Low Carbon Mild Steel (TFTC), 18-8 Stainless Steel (TFTS), and 6061 Aluminum (TFTA). Some materials may be available by special order. For specific grade information and physical and chemical properties, conforming standards, and information on stud plating, please see General Material Specifications.

THREADS: Standard external metric threads meet ISO 6g.