Weld Torque's

The calibrated torque spanner provides a convenient method of testing welded studs. Whilst very valuable for this purpose it should not be regarded as a precise test instrument as frictional effects can produce wide variations (as much as 33%) in the stress applied at any given torque load.

The table below indicates the safe tightening torque, which may be applied to a Studfast weld stud when welded to a compatible good weldable quality material.

It should be noted that should either the stud or the nut be lubricated the figures shown in the table should be reduced by 30%.

A table of compatible materials is provided overleaf for "CD", "DA" ***&*** "SCDA" ***and should be consulted prior to welding and testing.***

Capacitor Discharge Weld Studs

Dia	Mild Steel	Stainless Steel	Aluminium Alloy
M3	**0.58 Nm**	**0.98 Nm**	**0.39 Nm**
M4	**1.35 Nm**	**2.30 Nm**	**0.92 Nm**
M5	**2.67 Nm**	**4.56 Nm**	**1.82 Nm**
M6	**4.58 Nm**	**7.81 Nm**	**3.12 Nm**
M8	**12.06 Nm**	**20.55 Nm**	**8.22 Nm**
M10	**23.11 Nm**	**39.39 Nm**	

Drawn Arc Weld Studs

Dia	Mild Steel	Stainless Steel
M5	**2.36 Nm**	**3.65 Nm**
M6	**4.05 Nm**	**6.25 Nm**
M8	**10.65 Nm**	**16.44 Nm**
M10	**20.41 Nm**	**31.51 Nm**
M12	**36.41 Nm**	**56.38 Nm**
M16	**86.06 Nm**	**132.89 Nm**
M20	**177.04 Nm**	**273.37 Nm**

Short Cycle Weld Studs

Dia	Mild Steel CD Stud	Stainless Steel CD Stud
M3	**0.58 Nm**	**0.98 Nm**
M4	**1.35 Nm**	**2.30 Nm**
M5	**2.67 Nm**	**4.56 Nm**
M6	**4.58 Nm**	**7.81 Nm**
M8	**12.06 Nm**	**20.55 Nm**
M10	**23.11 Nm**	**39.39 Nm**
	Mild Steel DA Stud	**Stainless Steel DA Stud**
M5	**2.36 Nm**	**3.65 Nm**
M6	**4.05 Nm**	**6.25 Nm**
M8	**10.65 Nm**	**16.44 Nm**

Material Compatibility Tables

Weldability

The general welding properties of Studfast *weld studs are given in the table. Select from the 1st column in the table your product parent material. Read across to the column corresponding to the weld stud material. The general welding properties of the 2 materials is then given to enable you to evaluate the compatibility of your selection.*

Capacitor Discharge "CD" *Weld Studs*

Parent Material	Stud Material				
	Mild Steel	**Stainless Steel**	**Aluminium Alloy**	**Pure Aluminium**	**Brass**
Low Carbon Mild Steel	***Good***	***Good***	***Not Weldable***	***Not Weldable***	***Good***
Steel up to 0.6% carbon	*Fair*	***Good***	***Not Weldable***	***Not Weldable***	***Good***
Austenitic Stainless Steel	***Good***	***Good***	***Not Weldable***	***Not Weldable***	***Fair***
Zinc Coated Steel	***Fair***	***Fair***	***Not Weldable***	***Not Weldable***	***Good***
Electro Galvanised Steel	***Fair***	***Fair***	***Not Weldable***	***Not Weldable***	***Good***
Hot Rolled Structural Steel	***Fair***	***Fair***	***Not Weldable***	***Not Weldable***	***Fair***
Aluminium Alloy	***Not Weldable***	***Not Weldable***	***Good***	***Good***	***Not Weldable***
Pure Aluminium	***Not Weldable***	***Not Weldable***	***Good***	***Good***	***Not Weldable***
Lead Free Brass	***Good***	***Fair***	***Not Weldable***	***Not Weldable***	***Good***
Lead Free Copper	***Fair***	***Fair***	***Not Weldable***	***Not Weldable***	***Good***
Leaded Brass	***Not Weldable***	***Not Weldable***	***Not Weldable***	***Not Weldable***	***Not Weldable***

Drawn Arc "DA" *& Short Cycle* "SCDA" *Weld Studs*

Parent Material	Stud Material		
	Mild Steel	**Stainless Steel**	**Zinc Plated Mild Steel**
Low Carbon Mild Steel	***Good***	***Good***	***Fair***
Steel up to 0.6% carbon	***Fair***	***Good***	***Fair***
Austenitic Stainless Steel	***Good***	***Good***	***Fair***
Zinc Coated Steel	***Fair***	***Fair***	***Fair***
Electro Galvanised Steel	***Fair***	***Fair***	***Fair***
Hot Rolled Structural Steel	***Fair***	***Fair***	***Fair***