

art.TDS

SAFETY SUPPORT in Fe for welding "CQA" steel square nuts

We make the **TDS Safety Supports** from **tubular steel Fe 360/420** of adequate thickness in relation to the maximum load bearable by every single nut. This accessory stems from the need for maximum mechanical safety when welding the steel nut, a material which is very suitable for scrolling on specular trapezoidal threads, to a side face (the nut being cantilevered) where welding can only be partly guaranteed if it is not reinforced with the addition of an element such as the "TDS" Safety Support.

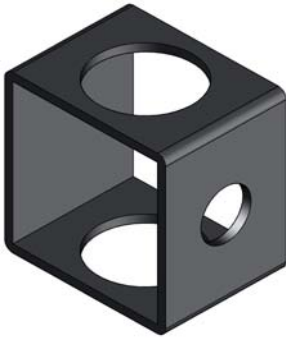
To render this application efficient, as shown in the diagrams below, recommend that for the first phase the steel square nut is welded to an adequately structured base of your machinery, on the two vertical sides only (in line with the thread) and then proceed with the second phase adding the Safety Support, placing it over the nut with the two larger holes in line with the thread holes, welding all four sides of the Safety Support to the base structure. For the third phase weld the top and bottom of the nut to the Safety Support where they are in contact. Before doing the third phase we suggest bevelling down a few millimetres of the inside of the two sides of Safety Support and the two sides of the nut that are to be welded so that if grinding flush later there is adequate welding remaining underneath.

Lubrication is always advisable and for this use the CQA/L steel square nut with threaded hole for a lubricator (see lubricants in *Technical Catalogue GDM* - www.bimeccanica.it).

For efficient welding, naturally carried out by expert hand, **we recommend using Castolin "EC 4080" electrodes** that, if necessary, are available from stock. **The welding cross section should not be less than 5mm** ▴.

To guarantee the tightness and non deformation of the nut it should be left to cool naturally, absolutely no sudden cooling.

- **TDS Safety Support - Example of welding the steel square nut and the Safety Support to the bearing structure.**



- **Description of the phases for correct fitting by welding of the steel square nut and Safety Support:**

FIRST PHASE

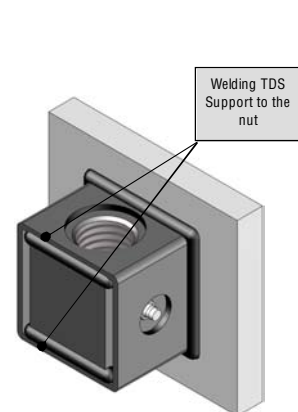
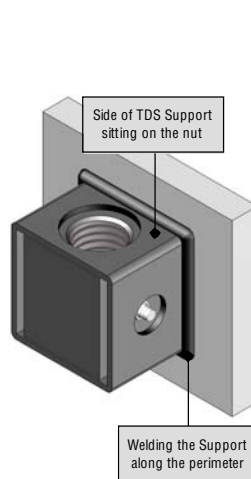
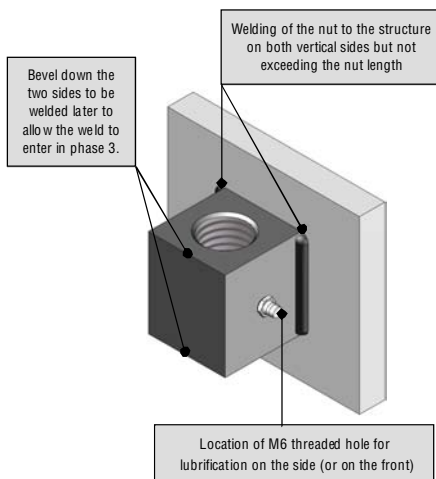
Welding of the nut using *Castolin EC 4080* electrodes

SECOND PHASE

Position the Safety Support in contact with the top side of the nut and weld the 4 sides to the structure (along the entire perimeter)

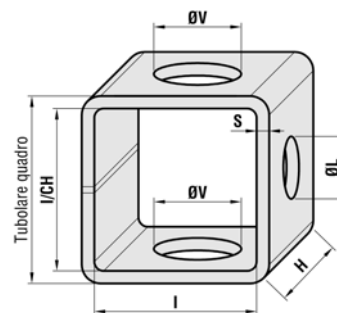
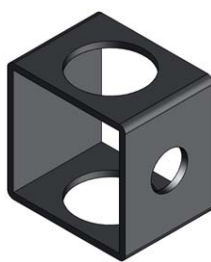
THIRD PHASE

Welding the TDS to the nut always using *Castolin EC 4080* electrodes and then grinding flush



The Safety Support is also used by us in some versions of Levelling Stabilisers as shown in photos 3 and 4 on the next page, available as an alternative to simplify the phase of fitting to the machine.

art.TDS SAFETY SUPPORT



FOR STEEL SQUARE NUTS	CODE	ARTICLE	SQUARE TUBE mm	S	I	I/CH	H	ØV	ØL	STATIC LOAD LIMIT MAX Kg	WEIGHT Kg
TR 20x4 - TR 22x5	A06TS2022	TDS 20 22	60	4	52	52	40	28	20	5.000	0,220
TR 24x4 - TR 25x5 - TR 26x5	A06TS242526	TDS 24 25 26	65 (70)	4	57 (62)	57	45	32	25	8.000	0,340
TR 28x5 - TR 30x6 - TR 32x6	A06TS283032	TDS 28 30 32	70	4	62	62	50	38	25	11.000	0,300
TR 35x6 - TR 36x6	A06TS353640	TDS 35 36 40	80	4	72	72	60	46	25	17.000	0,430
TR 40x7	A06TS353640	TDS 35 36 40	80	4	72	72	60	46	25	20.000	0,430
TR 45x8	A06TS45	TDS 45	90 (100)	5	80 (90)	81	65	52	30	28.000	0,840
TR 50x8	A06TS50	TDS 50	100	5	90	90	75	60	30	37.000	0,770
TR 55x9	A06TS5560	TDS 55 60	110 (120)	5	100 (110)	103	85	70	30	45.000	1,340
TR 60x9	A06TS5560	TDS 55 60	110 (120)	5	100 (110)	103	85	70	30	56.000	1,340

() The external dimensions of the square tubes shown in brackets are used only in case of non availability of the first.

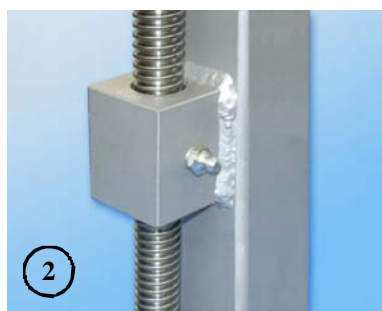
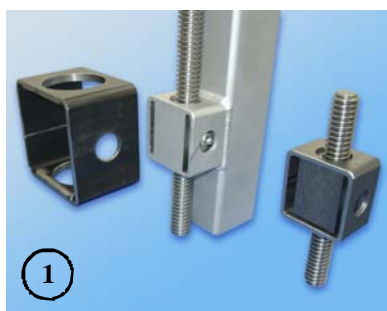
THE STATIC LOAD shown in the table refers to the **maximum limit supportable in static situations between the screw and nut**, without using any safety coefficient prevailing for machinery, with a welding section of 5mm and *Castolin EC 4080* electrodes to a structure in Fe with "CQA" square nut and "TDS" Safety Support in the modality described on the opposite page.

The system allows the use of the same parameters as those for the Levelling Stabilisers (see **Technical Catalogue SVL - www.bimeccanica.it**).

Example: Having to use 4 nuts with Safety Supports to support and level machinery with a total weight of 8,000 Kgs. Apply the safety coefficient of "4" as foreseen by the regulations for machinery, the choice goes on an item that has unitary load limit of 8,000 Kgs. minimum in which by welding in the 4 corners of the machine conforms with the above regulations. Naturally in addition to the correct method of fitting one has to also consider machine vibrations and possible transversal oscillations that normally require supports of larger dimensions.

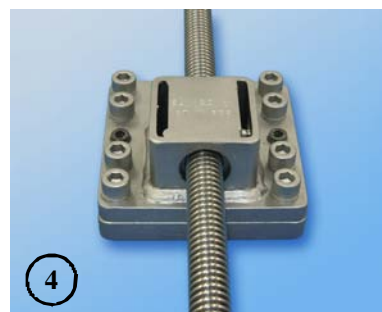
Warning: having to use this system for footboards or for moving of people, the regulations foresee a safety coefficient of "8" and given the same conditions of choice means a doubling of the dimensions used in the preceding example.

The Bimeccanica company is not responsible for structural fitting effected by the user.



(1) Example of steel square nut with "TDS" Safety Support welded to the structure, as described on the previous page, (with *Castolin EC4080* electrodes) for applications requiring A HIGH DEGREE OF SAFETY SUPPORT.

(2) Example of steel square nut welded directly to the structure without "TDS" Safety Support (with *Castolin EC4080* electrodes) for applications requiring low load support.



(3-4) Examples of steel square nuts with "TDS" Safety Supports welded on metal plates to form standard "RT" series Levelling Stabilisers listed in our Technical Catalogue SLV (www.bimeccanica.it).