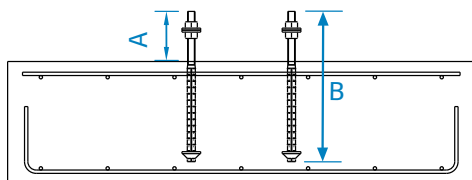


# noxifer®

global bulding solutions

Reduced edge foundations, slab foundation, coronation beams, etc.

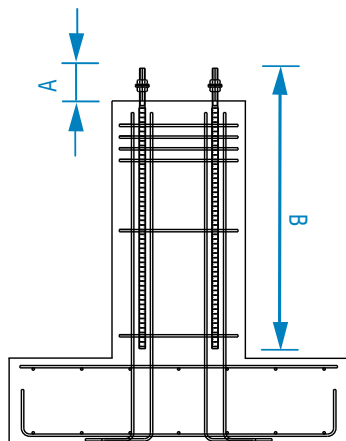


Code	A value total length	B value
TN20C	115mm	365mm
TN24C	130mm	450mm
TN30C	150mm	530mm
TN39C	180mm	750mm

\* Possibility of manufacturing another "B" value.

\* All anchors include two nuts and two washers.

Foundation pilasters, anchor over wall, column connections, etc.



Code	A value	B value
TN20L	115mm	1000mm
TN24L	130mm	1200mm
TN30L	150mm	1500mm
TN39L	180mm	2000mm

\* Possibility of manufacturing another "B" value.

\* All anchorages include two nuts and two washers.

Washer material: S275JR

Nut material: 8 series

Anchor base material: B500S

Anchor bolts for the column or beam foundation or other concrete element. For precast concrete structures, metallic structures and machine fastening.

## Anchor bolt

# TN



[www.noxifer.com](http://www.noxifer.com)



Anchor bolt TN

## 1 1.1. Anchor selection depending on its capacity (either-or if it is short anchor or long anchor):

	TN20 anchor	TN24 anchor	TN30 anchor	TN39 anchor
Metric (screwed zone)	M20x2.5	M24x3	M30x3.5	M39x4
Effective section screw / Ø sp.	245mm <sup>2</sup> /17.66mm	352mm <sup>2</sup> /21.17mm	561mm <sup>2</sup> /26.72mm	976mm <sup>2</sup> /35.25mm
Maximum axial load(1)	96.3 kN	138.7 kN	220.4 kN	383.40 kN
Maximum axial load(2)	31.26 kN	45.04 kN	71.58 kN	124.54 kN
Maximum axial load(3)	6.9 kN	10.8kN	19.21 kN	36.87 kN
Equivalence (4)	Ø 16 / 201mm <sup>2</sup>	Ø 20 / 314mm <sup>2</sup>	Ø 25 / 491mm <sup>2</sup>	Ø 32 / 804mm <sup>2</sup>
Wrench	30mm	36mm	46mm	60mm

1) Screwed zone maximum compression and traction capacity depending on EC3 rule (EN1993-1-8: 2005)

2) Screwed zone maximum cutting capacity to situate a junction with a made stuffing depending on EC3 (EN-1993-1-8: 2005; 6.2.2)

3) Screwed zone maximum cutting capacity without putting stuffing, depending on CEN/TS 1992-1-4-1: 2009: 5.2.3.4 (with lever arm)

4) Direct relation between capacities of screwed anchor and corrugated bar B-500s/sd. Pre-dimensioning.

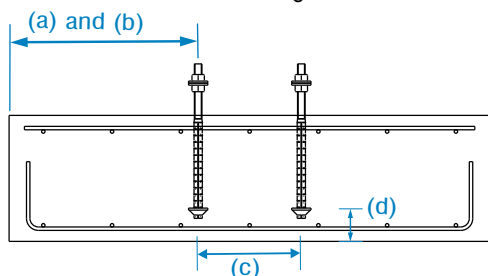
## 2 2.1. Type of anchor to be used. Short and long version:

2.1.1. **Short anchor version TNC:** ONLY for anchor in concrete, **DO NOT OVERLAP** with reinforced bars where anchor will be situated. Ideal for connections on reduced edge foundations (slab foundation, coronation beams, etc.).

2.1.2. **Long anchor version TNL:** Lets the element anchoring and depending on conditions **OVERLAP** with reinforcement of the zone where anchor will be situated. Ideal for connections as column connections, wall pilasters in situ, big edge foundations, etc.

## 3 3.1. General application considerations:

3.1.1. **Short anchor version TNC:** Its geometry and functioning, required to accomplish distance conditions from the screw to the foundation edge and between them (when they form a grup, for instance, a column)



	TNC anchor
Axis to edge distance (a)	10xM (Metric)
Minimum distance to edge (b)	3.1xM (Metric)
Minimum distance between anchors (c)	6xM (Metric)
Minimum lower distance (d)	5xM (Metric)

a) Distance defined by concrete cone. If the real distance is lower than 10xM (being M the metric), the cone must be reinforced with reinforcement.

b) The real distance between concrete edge and screw axis NEVER CAN BE LOWER than the defined value in the table.

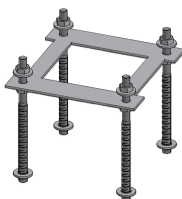
c) Minimum distance between anchors. If the real distance is lower it must be reinforced with reinforcement.

d) Anchor inferior distance and foundation inferior face, limited by puncturing, if the value is inferior you must put a reinforcement.

**For more details about the use of the short anchors, contact with the technical department of NOXIFER**

3.1.2. **Long anchor version TNL:** In this case, the long bolt is regulated by the habitual conditions of a ribbed bar in a concrete element, so you must follow the prescriptions of the rule EN19921-1-1. Depending on the type of concrete, put the bar in the concreting (good or bad adhesion) concrete recovering ( $\alpha_2$ ), confinement reinforcement ( $\alpha_3$ ) and percentage of overlapped bars in the section of study ( $\alpha_6$ ), the necessary anchor distance is defined for the capacity showed in the table of maximum axial charges and/or the resultant of the calculation in particular.

## 4 4.1. Placement of the anchors in site (or in factory):



For short anchors and also for long anchors, is necessary a placement template to assure that the anchors in the foundations, walls, columns, etc. are well located. The template must guarantee the distance between them and being sufficiently rigid.