

#1 GUIDANCE NOTE

DETERMINING CORRECT BOLT LENGTH - (PEG ANCHOR)

Clamping range for **stock** sizes is shown in product literature and on our website. Where a non-stock bolt diameter is needed or where a clamping length greater than that specified for stock sizes is required, please use the following guidance to calculate correct bolt length.

Total bolt length (**L**) will be dictated by dimensions of materials to be clamped (box section, beam, packing, plates etc) **PLUS** an additional length so that the bolt can pass through the recipient material(s) and be expanded. This additional length necessary to provide proper installation should be 2.0 times the bolt diameter.

Therefore, standard equation for calculating correct length is as follows:-

$$L = (a+b+c...) + (d \times 2.0.)$$

Where **L** defines optimum length of bolt,

and **a** represents parent material thickness; **b...c...etc** shows thickness(es) of any additional section(s) to be fastened to parent material eg packing/box section/steel plate etc.

d is the diameter of the bolt being applied.

Worked example

Where the requirement is for a 22mm diameter bolt to attach a steel plate (15mm) and 2 x 10mm packers to a hollow box section (20mm thickness), and applying the equation above, the overall minimum bolt length (L) required will be:-

$$L = (15 + [10 + 10] + 20) + (2.0 \times 22) = 99$$

a (steel plate) = 15; [b + c] +...(packers/additional plies) = [10 + 10] and hollow box section thickness is 20mm; d = bolt diameter x 2.0 (2.0 x 22) = 44

Therefore L = 99mm which is the minimum bolt length needed to provide clamp for the specified application.

When the correct minimum bolt length has been established, the figure should be used in conjunction with our product stock range chart to round up to the nearest stock item if appropriate. For items with a non-stock diameter, or where length required exceeds quoted stock sizes, please contact our sales department for further advice on (0116) 251 2251.