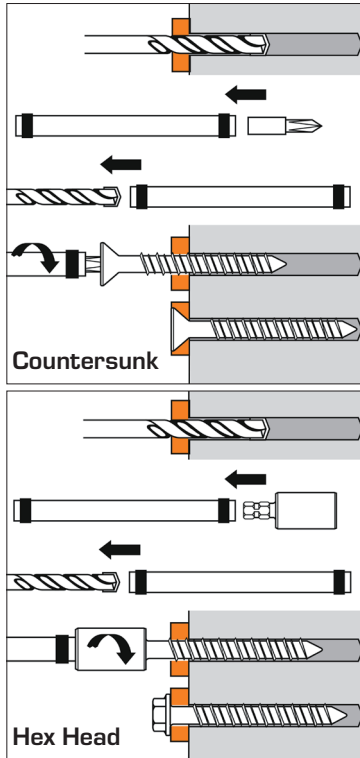




High performance concrete anchor that cuts own thread into concrete, brick or block

INSTALLATION



Tapcon Installation Accessories

- * Condrive Sleeve for SDS - Code 921437
- * 6.5mm Hex Socket - Code 921162
- * 8mm Hex Socket - Code 921163
- * SDS+ Hex 4.35 x 180mm Tapcon Drill Bit (Up to 100mm) - Code 921137
- * SDS+ Hex 5.15 x 180mm Tapcon Drill Bit (Up to 100mm) - Code 921154
- * SDS+ Hex6 x 180mm Tapcon Drill Bit (Up to 100mm) - Code 920940

MATERIAL

Countersunk Blue version:

- Carbon steel
- **Coating:** Mechanical galvanised

Hex Head Blue version:

- Carbon steel
- **Coating:** Mechanical galvanised

CORROSION RESISTANCE

Blue Climaseal™

Kesternich Results (DIN 40018)
2.0L 30 cycles – 10% or less rust

Salt Spray Results (ASTM B117)720
hours – 10% or less rust

Designed for use in dry interior
locations (Please refer to Approval
ICC-ESR 2202 Concrete)

PRODUCT APPLICABILITY

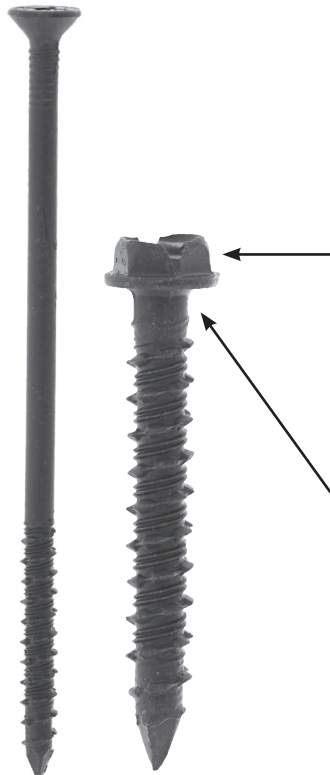
- Suitable for non-cracked concrete only
- Not designed for fire rated applications

Approvals

ICC-ESR
1671
Masonry

ICC-ESR
2202
Concrete

The Original TAPCON



THE ORIGINAL
Tapcon®

- **Blue Climaseal™**
provides extended corrosion protection
- **Hex Head**
style on TAPCON anchors is available for majority of fixture anchoring need
- **Phillips Flat Head**
style is available when flush seating is necessary in countersunk applications
- **Advanced Threadform**
cuts into concrete and masonry for reduced installation torque and increased pullout performance
- **Nail-Type Point**
guides the anchor into the pre-drilled hole. Excellent for wood to concrete applications
- **Lengths of TAPCON Anchors**
3F - 32mm to 82mm
4F - 45mm to 125mm
3H - 32mm to 57mm
4H - 45mm to 100mm

Applications

- Steel framing systems
- Railings, hand rails
- Insulation system to masonry
- Brackets & signs
- Temp safety rails
- Cable tray, channel
- Suspended ceiling
- Brackets & signs

Performance Data - TAPCON Strength and Reliability

TAPCON Masonry anchors are manufactured from special high quality cold forming steel, heat treated to give a hard cutting surface for efficient thread cutting action in a wide variety of masonry materials. The standard finish on TAPCON anchors is electroplated and passivated zinc with colour identifying blue coating.

Rigid quality control in all phases of production ensures consistent and reliable performance. TAPCON anchors have been laboratory tested on an Avery Densison testing machine in concrete product manufacturers' standard materials. Appropriate curing times were allowed for the masonry test blocks to ensure reliable results.

TAPCON BLUE

2/5 Countersunk & Hex head version



Technical data

| Versions | Description | Anchor Dia (mm) | Drill Dia (mm) | Drive | Across Flats (mm) | Fixture Thickness (mm) | Anchor Length (mm) | Minimum Embedment (mm) | Minimum Embedment Hole Depth (mm) | Maximum Embedment (mm) | Maximum Embedment Hole Depth (mm) | Minimum thickness of base material | Minimum thickness diameter | Installation torque (Nm) | Box Qty | Code |
|------------------|-------------|--------------------|-------------------|-------|----------------------|---------------------------|-----------------------|---------------------------|--------------------------------------|---------------------------|--------------------------------------|------------------------------------|----------------------------|-----------------------------|---------|--------|
| Countersunk Blue | 3F32 | 5 | 4 | PH2 | - | 0-7 | 32 | 25 | 35 | 25 | 35 | 100 | 6 | 5 | 100 | 921507 |
| | 3F45 | 5 | 4 | PH2 | - | 5-20 | 45 | 25 | 35 | 25 | 35 | | | | 100 | 921508 |
| | 3F70 | 5 | 4 | PH2 | - | 30-45 | 70 | 25 | 35 | 45 | 55 | | | | 100 | 921510 |
| | 3F82 | 5 | 4 | PH2 | - | 42-57 | 82 | 25 | 35 | 45 | 55 | | | | 100 | 921511 |
| | 4F45 | 6 | 5 | PH3 | - | 5-20 | 45 | 25 | 35 | 45 | 55 | | | | 100 | 921514 |
| | 4F57 | 6 | 5 | PH3 | - | 17-32 | 57 | 25 | 35 | 45 | 55 | | | | 100 | 921515 |
| | 4F70 | 6 | 5 | PH3 | - | 30-45 | 70 | 25 | 35 | 45 | 55 | | | | 100 | 921516 |
| | 4F100 | 6 | 5 | PH3 | - | 60-75 | 100 | 25 | 35 | 45 | 55 | | | | 100 | 921518 |
| | 4F125 | 6 | 5 | PH3 | - | 85-100 | 125 | 25 | 35 | 45 | 55 | | | | 100 | 921519 |
| Hex Head Blue | 3H32 | 5 | 4 | HEX | 6.5 | 0-7 | 32 | 25 | 35 | 25 | 35 | 100 | 7 | 10 | 100 | 921498 |
| | 3H45 | 5 | 4 | HEX | 6.5 | 5-20 | 45 | 25 | 35 | 25 | 35 | | | | 100 | 921499 |
| | 3H57 | 5 | 4 | HEX | 6.5 | 17-32 | 57 | 25 | 35 | 45 | 55 | | | | 100 | 921500 |
| | 4H32 | 6 | 5 | HEX | 8.0 | 0-7 | 32 | 25 | 35 | 25 | 35 | | | | 100 | 921501 |
| | 4H45 | 6 | 5 | HEX | 8.0 | 5-20 | 45 | 25 | 35 | 25 | 35 | | | | 100 | 921502 |
| | 4H57 | 6 | 5 | HEX | 8.0 | 17-32 | 57 | 25 | 35 | 25 | 35 | | | | 100 | 921503 |
| | 4H70 | 6 | 5 | HEX | 8.0 | 30-45 | 70 | 25 | 35 | 25 | 35 | | | | 100 | 921504 |
| | 4H82 | 6 | 5 | HEX | 8.0 | 42-57 | 82 | 25 | 35 | 25 | 35 | | | | 100 | 921505 |
| | 4H100 | 6 | 5 | HEX | 8.0 | 60-75 | 100 | 25 | 35 | 25 | 35 | | | | 100 | 921506 |

Mechanical anchors

Edge and spacing distances

| Description | Spacing for Tension Normal Weight Concrete | | | Spacing for Shear Normal Weight Concrete | | | Edge Distance for Tension Normal Weight Concrete | | | Edge Distance for Shear Normal Weight Concrete | | |
|-------------|---|--------------------------|-----------------------|---|--------------------------|-----------------------|---|--------------------------|-----------------------|---|--------------------------|-----------------------|
| | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor |
| 3F | 76.2 | 38.1 | 0.73 | 76.2 | 38.1 | 0.83 | 47.6 | 25.4 | 0.83 | 57.1 | 28.5 | 0.70 |
| 4F | 101.6 | 50.8 | 0.66 | 101.6 | 50.8 | 0.82 | 63.5 | 31.7 | 0.82 | 76.2 | 38.1 | 0.59 |
| 3H | 76.2 | 38.1 | 0.73 | 76.2 | 38.1 | 0.83 | 47.6 | 25.4 | 0.83 | 57.1 | 28.5 | 0.70 |
| 4H | 101.6 | 50.8 | 0.66 | 101.6 | 50.8 | 0.82 | 63.5 | 31.7 | 0.82 | 76.2 | 38.1 | 0.59 |
| Description | Spacing for Tension Concrete Masonry Units | | | Spacing for Shear Concrete Masonry Units | | | Edge Distance for Tension Concrete Masonry Units | | | Edge Distance for Shear Concrete Masonry Unit | | |
| | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor | FULL Capacity (mm) | Reduced Capacity (mm) | Load Reduction Factor |
| 3F | 76.2 | 38.1 | 1.00 | 76.2 | 38.1 | 1.00 | 101.6 | 50.8 | 0.91 | 57.1 | 28.5 | 0.93 |
| 4F | 101.6 | 50.8 | 0.84 | 101.6 | 50.8 | 0.81 | 101.6 | 50.8 | 0.88 | 76.2 | 38.1 | 0.80 |
| 3H | 76.2 | 38.1 | 1.00 | 76.2 | 38.1 | 1.00 | 101.6 | 50.8 | 0.91 | 57.1 | 28.5 | 0.93 |
| 4H | 101.6 | 50.8 | 0.84 | 101.6 | 50.8 | 0.81 | 101.6 | 50.8 | 0.88 | 76.2 | 38.1 | 0.80 |

Reduction factors are cumulative. Multiple reduction factors for more than one spacing or edge distance are calculated separately and multiplied.
 Load reduction factors for anchors loaded in tension or shear with spacing between critical and minimum are obtained by linear interpolation.
 Load reduction factors for anchors loaded in tension or shear with edge distances between critical and minimum are obtained by linear.



Recommended loads

| Description | Effective Embedment Depth (mm) | Med Density Block | | 20 N/mm ² Concrete | | 25 N/mm ² Concrete | | 35 N/mm ² Concrete | |
|-------------|--------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|
| | | Tensile N _{rec} (kN) | Shear V _{rec} (kN) | Tensile N _{rec} (kN) | Shear V _{rec} (kN) | Tensile N _{rec} (kN) | Shear V _{rec} (kN) | Tensile N _{rec} (kN) | Shear V _{rec} (kN) |
| 3F32 | 25 | 0.36 | 1.10 | 0.50 | 1.23 | 0.60 | 1.23 | 0.66 | 1.26 |
| 3F32 | 32 | - | - | - | - | - | - | - | - |
| 3F32 | 38 | - | - | - | - | - | - | - | - |
| 3F32 | 44 | - | - | - | - | - | - | - | - |
| 3F45 | 25 | 0.36 | 1.10 | 0.50 | 1.23 | 0.60 | 1.23 | 0.66 | 1.26 |
| 3F45 | 32 | 0.66 | 1.16 | 0.86 | 1.26 | 0.90 | 1.23 | 0.93 | 1.26 |
| 3F45 | 38 | 0.93 | 1.20 | 1.26 | 1.26 | 1.30 | 1.30 | 1.36 | 1.33 |
| 3F45 | 44 | - | - | - | - | - | - | - | - |
| 3F70 | 25 | 0.36 | 1.10 | 0.50 | 1.23 | 0.60 | 1.23 | 0.66 | 1.26 |
| 3F70 | 32 | 0.66 | 1.16 | 0.86 | 1.26 | 0.90 | 1.23 | 0.93 | 1.26 |
| 3F70 | 38 | 0.93 | 1.20 | 1.26 | 1.26 | 1.30 | 1.30 | 1.36 | 1.33 |
| 3F70 | 44 | 1.13 | 1.36 | 1.56 | 1.50 | 1.66 | 1.50 | 1.83 | 1.50 |
| 3F82 | 25 | 0.36 | 1.10 | 0.50 | 1.23 | 0.60 | 1.23 | 0.66 | 1.26 |
| 3F82 | 32 | 0.66 | 1.16 | 0.86 | 1.26 | 0.90 | 1.23 | 0.93 | 1.26 |
| 3F82 | 38 | 0.93 | 1.20 | 1.26 | 1.26 | 1.30 | 1.30 | 1.36 | 1.33 |
| 3F82 | 44 | 1.13 | 1.36 | 1.56 | 1.50 | 1.66 | 1.50 | 1.83 | 1.50 |
| 4F45 | 25 | 0.76 | 1.66 | 1.06 | 2.16 | 1.20 | 2.30 | 1.36 | 2.46 |
| 4F45 | 32 | 1.23 | 1.90 | 1.70 | 2.36 | 1.83 | 2.46 | 2.06 | 2.56 |
| 4F45 | 38 | 1.66 | 1.90 | 2.60 | 2.40 | 2.36 | 2.50 | 2.50 | 2.60 |
| 4F45 | 44 | 1.96 | 2.23 | 2.76 | 3.03 | 3.03 | 3.20 | 3.33 | 3.26 |
| 4F57 | 25 | 0.76 | 1.66 | 1.06 | 2.16 | 1.20 | 2.30 | 1.36 | 2.46 |
| 4F57 | 32 | 1.23 | 1.90 | 1.70 | 2.36 | 1.83 | 2.46 | 2.06 | 2.56 |
| 4F57 | 38 | 1.66 | 1.90 | 2.60 | 2.40 | 2.36 | 2.50 | 2.50 | 2.60 |
| 4F57 | 44 | 1.96 | 2.23 | 2.76 | 3.03 | 3.03 | 3.20 | 3.33 | 3.26 |
| 4F70 | 25 | 0.76 | 1.66 | 1.06 | 2.16 | 1.20 | 2.30 | 1.36 | 2.46 |
| 4F70 | 32 | 1.23 | 1.90 | 1.70 | 2.36 | 1.83 | 2.46 | 2.06 | 2.56 |
| 4F70 | 38 | 1.66 | 1.90 | 2.60 | 2.40 | 2.36 | 2.50 | 2.50 | 2.60 |
| 4F70 | 44 | 1.96 | 2.23 | 2.76 | 3.03 | 3.03 | 3.20 | 3.33 | 3.26 |
| 4F100 | 25 | 0.76 | 1.66 | 1.06 | 2.16 | 1.20 | 2.30 | 1.36 | 2.46 |
| 4F100 | 32 | 1.23 | 1.90 | 1.70 | 2.36 | 1.83 | 2.46 | 2.06 | 2.56 |
| 4F100 | 38 | 1.66 | 1.90 | 2.60 | 2.40 | 2.36 | 2.50 | 2.50 | 2.60 |
| 4F100 | 44 | 1.96 | 2.23 | 2.76 | 3.03 | 3.03 | 3.20 | 3.33 | 3.26 |
| 4F125 | 25 | 0.76 | 1.66 | 1.06 | 2.16 | 1.20 | 2.30 | 1.36 | 2.46 |
| 4F125 | 32 | 1.23 | 1.90 | 1.70 | 2.36 | 1.83 | 2.46 | 2.06 | 2.56 |
| 4F125 | 38 | 1.66 | 1.90 | 2.60 | 2.40 | 2.36 | 2.50 | 2.50 | 2.60 |
| 4F125 | 44 | 1.96 | 2.23 | 2.76 | 3.03 | 3.03 | 3.20 | 3.33 | 3.26 |

Note:

(-) Represents that this embedment depth is not achievable with this anchor.



Ultimate Performance Values

ULTIMATE Tension and Shear Values in CONCRETE

| Description | Minimum Embedment Depth (mm) | f _c 2000 psi (13.8 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | |
|-------------|------------------------------|---|-------|---|-------|---|-------|---|-------|
| | | Tension | Shear | Tension | Shear | Tension | Shear | Tension | Shear |
| | | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 3F | 25.40 | 2.67 | 3.20 | 2.78 | 3.20 | 2.89 | 3.20 | 3.56 | 3.83 |
| 3F | 31.75 | 3.76 | 3.20 | 3.82 | 3.20 | 3.87 | 3.20 | 4.50 | 3.83 |
| 3F | 38.10 | 4.85 | 3.83 | 4.85 | 3.83 | 4.85 | 3.83 | 5.43 | 3.83 |
| 3F | 44.45 | 6.45 | 3.87 | 6.48 | 3.87 | 6.50 | 4.41 | 7.70 | 4.41 |
| 4F | 25.40 | 3.34 | 4.01 | 3.45 | 4.01 | 3.56 | 6.05 | 4.23 | 6.41 |
| 4F | 31.75 | 4.67 | 4.01 | 5.16 | 4.01 | 5.65 | 6.05 | 6.74 | 6.41 |
| 4F | 38.10 | 6.14 | 5.34 | 7.12 | 5.34 | 8.10 | 6.14 | 9.66 | 7.43 |
| 4F | 44.45 | 8.99 | 7.43 | 9.79 | 7.43 | 10.59 | 7.43 | 12.33 | 7.43 |

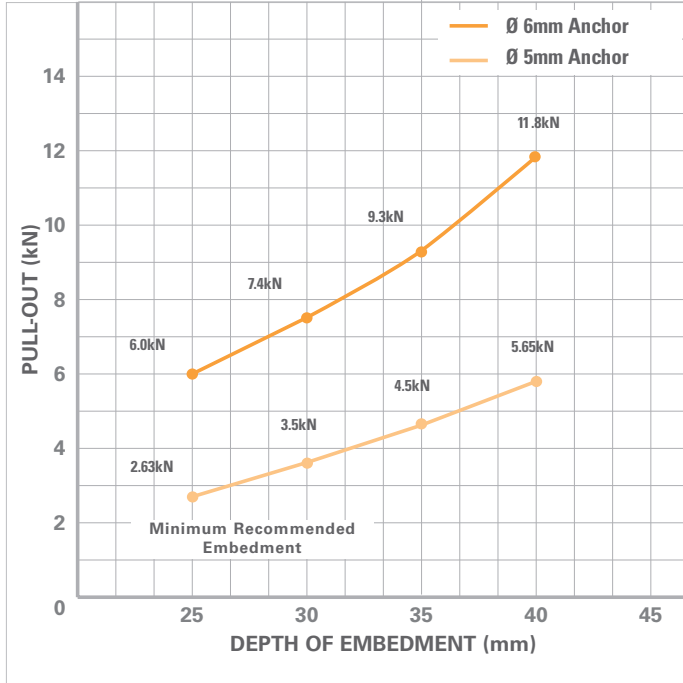
ULTIMATE Tension and Shear Values in CONCRETE

| Description | Minimum Embedment Depth (mm) | f _c 2000 psi (13.8 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | | f _c 3000 psi (20.7 N/mm ²) | |
|-------------|------------------------------|---|-------|---|-------|---|-------|---|-------|
| | | Tension | Shear | Tension | Shear | Tension | Shear | Tension | Shear |
| | | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 3H | 25.40 | 2.67 | 3.20 | 2.78 | 3.20 | 2.89 | 3.20 | 3.56 | 3.83 |
| 3H | 31.75 | 3.76 | 3.20 | 3.82 | 3.20 | 3.87 | 3.20 | 4.50 | 3.83 |
| 3H | 38.10 | 4.85 | 3.83 | 4.85 | 3.83 | 4.85 | 3.83 | 5.43 | 3.83 |
| 3H | 44.45 | 6.45 | 3.87 | 6.48 | 3.87 | 6.50 | 4.41 | 7.70 | 4.41 |
| 4H | 25.40 | 3.34 | 4.01 | 3.45 | 4.01 | 3.56 | 6.05 | 4.23 | 6.41 |
| 4H | 31.75 | 4.67 | 4.01 | 5.16 | 4.01 | 5.65 | 6.05 | 6.74 | 6.41 |
| 4H | 38.10 | 6.14 | 5.34 | 7.12 | 5.34 | 8.10 | 6.14 | 9.66 | 7.43 |
| 4H | 44.45 | 8.99 | 7.43 | 9.79 | 7.43 | 10.59 | 7.43 | 12.33 | 7.43 |

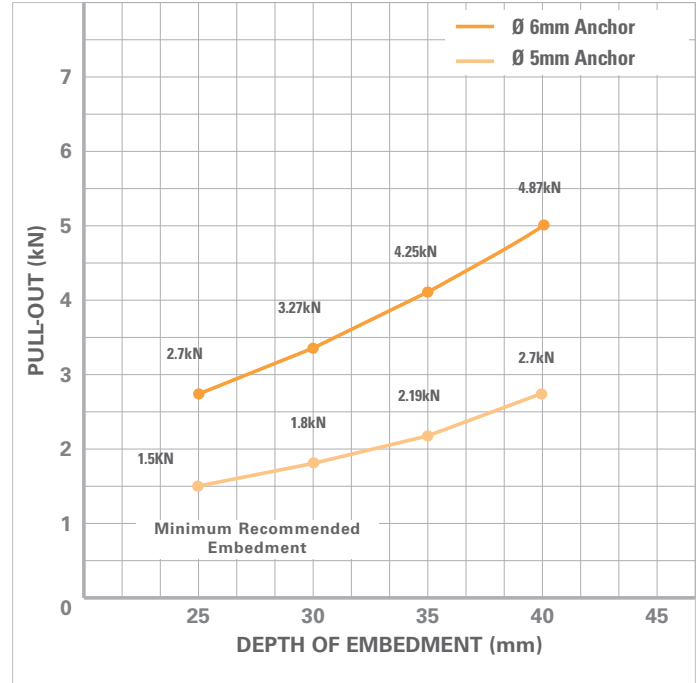


Embedment graphs

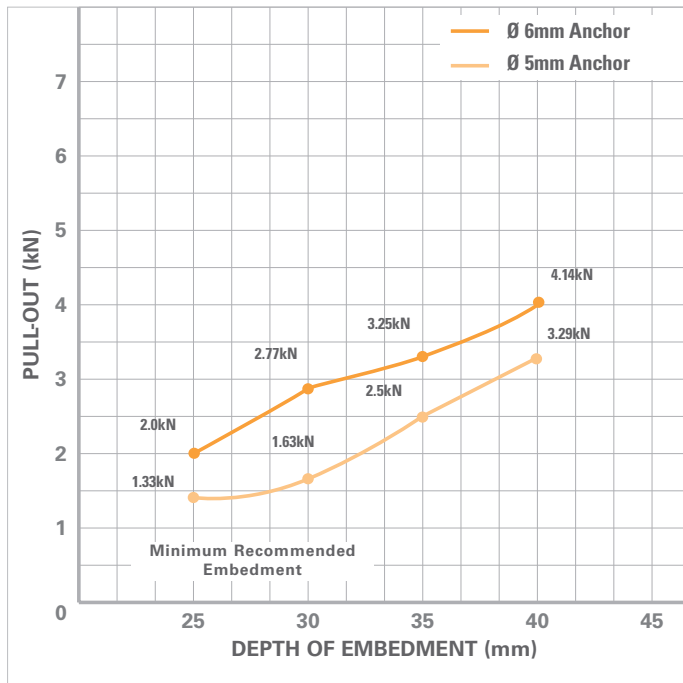
40 Newton Concrete



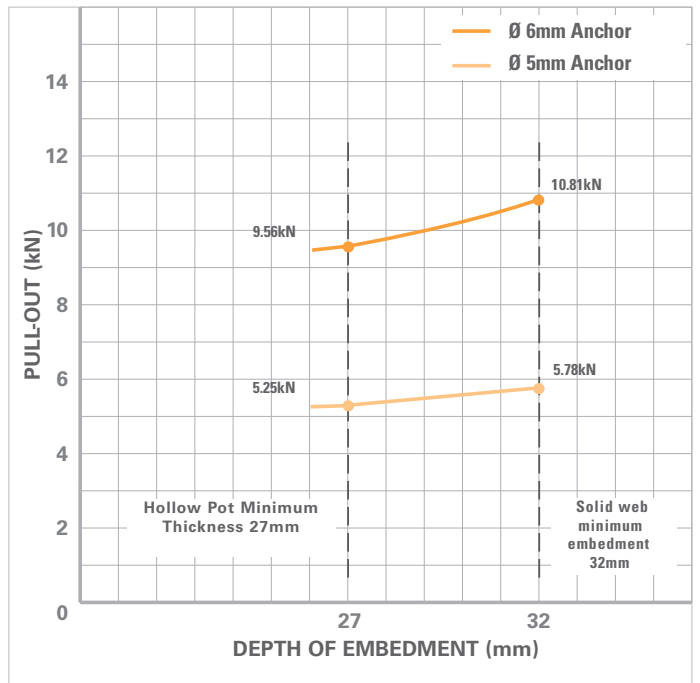
Typical Dense Concrete Block



Common Brick



Typical Hollow Concrete Beam



5 mm 3F & 3H

6 mm 4F & 4H

NOTE. All loads given above are ultimate failure loads and should have a safety factor of 3 applied for Recommended Load Values.

SPIT products are specifically designed for trained professional end users.

Operation and safety instructions within the user manuals must be adhered to at all times. Anchors must be selected according to the nature of base materials, the load to be supported and environmental conditions. The selected product shall be checked according to technical data, calculation and on-site tests if required.

In cases where base materials not defined please feel free to contact us for advice: www.itwcp.co.uk or technical helpline: 0800 731 4924. Illustrations shall not be considered as representative. SPIT reserves the right to modify characteristics of their products at any time. Illustrations may show accessories not delivered with the standard version.