

## 32.1 GENERAL INFORMATION

PERFORMANCE RELATED	MATERIAL SPECIFICATION	INSTALLATION RELATED

### Product

The DynaSet™ Drop-In Anchor is a medium duty, displacement setting expansion anchor.

### Benefits, Advantages and Features

#### Fast installation:

- Shallow embedment and simple setting action.

#### Convenient:

- Threaded rod can be cut to equal lengths.
- Flanged version sits flush with surface in overdrilled holes.

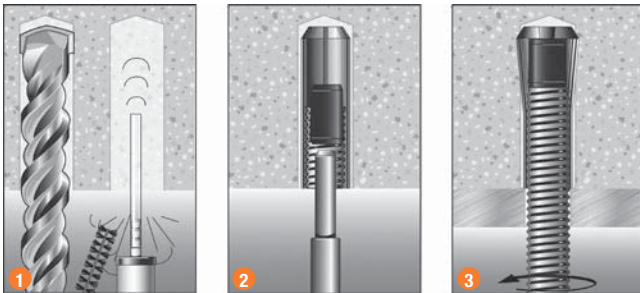
#### Ideal as reusable anchorage point:

- Internal threaded design.
- No protruding metal parts when bolt or rod is removed.

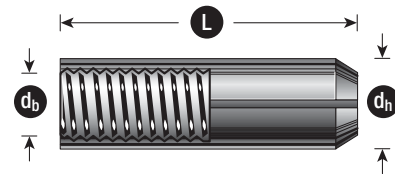
#### Superior corrosion resistance:

- AISI 316(A4) Stainless Steel.

### Installation



1. Drill hole at recommended diameter, to at least the anchor length in depth. Clean hole thoroughly with a brush. Remove debris by way of a vacuum pump, compressed air, hand pump etc.
2. Insert anchor and push to required depth. Using the special setting tool, drive the expander plug down until shoulder of the setting punch meets top of the anchor.
3. Position fixture then insert the bolt and tighten with spanner. The DynaSet™ Drop-In anchor remains set in position if the bolt is removed.



### Principal Applications

- Suspended services, such as cable tray, ventilation ducts or plumbing fixtures
- Stadium seating
- Holding down machinery
- Installing racking
- Suspended ceilings

## Installation and performance details

Anchor size, db	Installation details			Optimum dimensions*		Reduced Characteristic Capacity			
	Drilled hole diameter, d <sub>h</sub> (mm)	Anchor effective depth, h (mm)	Tightening torque, T <sub>r</sub> (Nm)	Edge distance, e <sub>c</sub> (mm)	Anchor spacing, a <sub>c</sub> (mm)	Shear (steel)	Tension (concrete), ØN <sub>uc</sub> (kN)**		
						ØV <sub>us</sub> (kN)***	Concrete compressive strength, f' <sub>c</sub>		
							20 MPa	32 MPa	40 MPa
M6	8	23	6	80	60	4.5	3.6	4.6	5.1
M6 Flanged	8	23	6	80	60	5.8	3.6	4.6	5.1
M8	10	28	10	100	70	5.8	4.9	6.1	6.9
M10	12	38	20	135	95	7.1	7.7	9.7	10.8
M10 Flanged	12	28	12	100	70	5.8	4.9	6.1	6.9
M12	16 #	48	40	170	120	13.2	10.9	13.8	15.4
M12 Flanged	16	48	40	170	120	13.2	10.9	13.8	15.4
M16	20	63	95	220	160	20.9	16.4	20.7	23.2
M20	25	78	180	275	195	26.3	22.6	28.5	31.9

\* Note: For shear loads acting towards an edge or where these optimum dimensions are not achievable, please use the simplified strength limit state design process to verify capacity.

\*\*Note: Reduced characteristic ultimate concrete tensile capacity = ØN<sub>uc</sub> where Ø = 0.60 and N<sub>uc</sub> = Characteristic ultimate concrete tensile capacity.

**For conversion to Working Load Limit MULTIPLY ØN<sub>uc</sub> x 0.55**

\*\*\* Note: Values for shear limited by steel - Reduced characteristic ultimate steel shear capacity = ØV<sub>us</sub> where Ø = 0.80 and V<sub>us</sub> = Characteristic ultimate steel shear capacity.

# Note: Hole diameter = 15mm for M12SS

## 32.2 DESCRIPTION AND PART NUMBERS

Anchor size, d <sub>b</sub>	Anchor length, L (mm)	Effective depth, h (mm)	Thread length, L <sub>t</sub> (mm)	Part No.	
				Zn	S/S
M6	25	23	11	DSM06	DSM06SS
M6 Flanged	25	23	11	DSF06	–
M8	30	28	13	DSM08	DSM08SS
M10	40	38	16	DSM10	DSM10SS
M10 Flanged	30	28	14	DSF10	–
M12	50	48	21	DSM12	DSM12SS
M12 Flanged	50	48	21	DSF12	–
M16	65	63	28	DSM16	–
M16	60	58	28	–	DSM16SS
M20	80	78	35	DSM20	–

Substrate thickness, b<sub>m</sub> (mm)

$$b_m = 2 \times h$$

Drilled hole depth, h<sub>1</sub> (mm)

$$h_1 = h$$

h = Effective depth

## 32.3 ENGINEERING PROPERTIES

Anchor size, d <sub>b</sub>	Anchor stress area, A <sub>s</sub> (mm <sup>2</sup> )	Carbon Steel		Stainless Steel		Section modulus, Z (mm <sup>3</sup> )
		Yield strength, f <sub>y</sub> (MPa)	UTS, f <sub>u</sub> (MPa)	Yield strength, f <sub>y</sub> (MPa)	UTS, f <sub>u</sub> (MPa)	
M6	24.3	350	440	480	600	36.9
M8	32.0	350	440	480	600	63.7
M10	40.7	340	430	480	600	100.2
M12	96.3	260	320	–	–	292.9
M12 S/S	72.0	–	–	480	600	214.9
M16	125.5	320	450	480	600	502.1
M20	198.3	198.3	450	480	600	789.6