Comparison

- FIS VL -

Ph: 1300 303 366
E: sales@powagroup.com.au
www.powagroup.com.au

POWAFix®
Powerful Quick Fixing Systems™

FIS VL – "For standard applications in masonry and concrete"

3 versions possible:
FIS VL (Standard)
FIS VL *HIGH SPEED* possible
FIS VL *LOW SPEED* possible

Variable embedment depth **4×d to 20×d**

Approved in cracked concrete:
FIS A/RG M (M10 – M20)

Approved in non-cracked concrete
FIS A (M6 – M30),
RG M (M8 – M30),
RG MI (M8 – M20)

Installation temperature range:
FIS VL *HIGH SPEED*: **–10°C** up to +20°C
FIS VL: –5°C up to **+40°C**

Assessment for **post-installed rebars**

Approved for **cracked and non-cracked concrete**

Approved for **solid and hollow masonry** as well as **aerated concrete**

Application temperature range:
–40°C up to **+120°C**

Available in following cartridge sizes:
Multibond: **150ml, 300ml**
Coaxial: **410ml**
Shuttle: **360ml**

Usable in dry and wet concrete

Approved for **water-filled holes with coaxial cartridges 410ml**

Permissible Working Loads

Tensile Loads Concrete strength f_c = 20 Mpa, uncracked			Steel Strength			Permissible Bond Strength	Permissible Loads
Long-term (short term) concrete temperature						50°C (80°C)	50°C (80°C)
Steel Strength			5.8	8.8	A4 -70		5.8
Threaded rod	Hole depth h_{ef} [mm]	Hole diameter d_0 [mm]	$N_{s,perm}$ [kN]	$N_{s,perm}$ [kN]	$N_{s,perm}$ [kN]	$N_{p,c,perm}$ [kN]	N_{perm} [kN]
M8	80	10	9,05	14,3	9,8	8,8	8,8
M10	90	12	13,8	22,4	15,5	12,3	12,3
M12	110	14	20,5	32,4	22,5	18,1	18,1
M16	125	18	37,6	60,0	42,0	24,9	24,9
M20	170	24	58,6	93,3	65,5	40,3	40,3
M24	210	28	84,3	134,3	94,4	56,5	56,5
M30	280	35	133,8	214,0	150,0	89,0	89,0

Load comparison

Tensile Loads Concrete strength f_c = 20MPa, uncracked			fischer FIS VL	Ramset 101	Ramset 801	AT-HP Simpson	Iccons BIS-V	Iccons BIS-P	Bremfix EASF	Hilti HY 170	Powers AC100 Pro	Powers PV45PRO
Threaded rod	Hole depth h_{ef} [mm]	Hole diameter d_0 [mm]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]	N_{perm} [kN]
M8	80	10	8,8	7,2	8,6	4,8	7,2	5,2	6,5	7,2	7,7	6,3
M10	90	12	12,3	9,0	11,2	6,3	10,1	6,7	10,3	10,1	10,7	13,8
M12	110	14	18,1	14,8	15,6	9,2	14,8	9,9	14,9	14,8	15,6	13,9
M16	125	18	24,9	24,3	22,4	12,8	22,4	15,0	20,9	22,4	23,7	19,8
M20	170	24	40,3	36,0	36,0	20,0	38,1	25,4	33,2	38,1	40,3	29,8
M24	210	28	56,5	50,3	50,3	31,4	53,4	37,7	43,2	56,5	56,5	37,7
M30	280	35	89,0	-	49,4	47,1	68,1	-	-	-	73,3	-

1) Steel grade 5.8

2) Temp.range 50°C (80°C)

Gel- and curing times

			>30°C	>20°C	>10°C	>5°C	>0°C	>-5°C
fischer FIS VL	Gel time	min	2	4	5	9	13	-
	Curing time		35	45	60	90	180	24 h
Ramset 101	Gel time	min	4	5	6	10	-	-
	Curing time		35	50	85	145	-	-
Ramset 801	Gel time	min	-	5	8	10	-	-
	Curing time		-	50	75	145	-	-
AT-HP Simpson	Gel time	min	<1	1	4	9	12	15
	Curing time		20	30	60	1,5h	4h	9h
Iccons BIS-V	Gel time	min	4	6	15	25	45	90
	Curing time		25	45	80	2h	7h	14h
Iccons BIS-P	Gel time	min	4	6	15	25	45	90
	Curing time		25	45	80	2h	3h	6h
Bremfix EASF	Gel time	min	2	4	9	12	-	50
	Curing time		30	30	45	50	-	90
Hilti HY170	Gel time	min	2	3	5	8	10	10
	Curing time		30	45	90	150	300	12 h
Powers AC100 Pro	Gel time	min	4	6	15	25	45	90
	Curing time		25	45	80	120	7 h	14 h
Powers PV45PRO	Gel time	min	4	6	15	25	45	90
	Curing time		25	45	80	120	180	360