

# Resinglass

## Consumption, geometric and mechanical parameters

### Coverage table

			M8	M10	M12	M14	M16	M20	M24	M27	M30	
Threaded bar diameter	d	mm	8	10	12	14	16	20	24	27	30	
Diameter of the bore in concrete	d <sub>0</sub>	mm	10	12	14	16	18	24	28	32	35	
Anchoring depth	h <sub>ef</sub>	mm	80	90	100	100	125	175	210	240	280	
Number of bores per 1 585 ml-package	n°		109	77	56	45	33	11	8	5	4	
Theoretical consumption per bore		ml	4,8	6,8	9,3	11,7	16,1	51,3	72,1	113,1	150,2	
			<b>φ8</b>	<b>φ10</b>	<b>φ12</b>	<b>φ14</b>	<b>φ16</b>	<b>φ20</b>	<b>φ24</b>	<b>φ25</b>	<b>φ28</b>	<b>φ32</b>
Reinforcing bar diameter	d	mm	8	10	12	14	16	20	24	25	28	32
Diameter of the bore in concrete	d <sub>0</sub>	mm	12	14	16	18	20	24	32	32	35	40
Anchoring depth	h <sub>ef</sub>	mm	90	100	100	125	125	175	240	240	280	320
Number of bores per 1 585 ml-package	n°		61	47	40	28	25	15	5	5	4	3
Theoretical consumption per bore		ml	8,5	11,4	13,2	18,9	21,2	36,2	120,1	113	145,7	217,4

Specifications should be considered as guidelines only.  
Data validity is guaranteed only if unopened cartridges are used

Installation parameters for fastenings on concrete										
Anchoring size (threaded bar)			M8	M10	M12	M16	M20	M24	M27	M30
Threaded bar diameter	$d=d_{nom}$	mm	8	10	12	16	20	24	27	30
Rated bore diameter	$d_0$	mm	10	12	14	18	22	28	30	35
Effective anchoring depth	$h_{ef,min}$	mm	60	60	70	80	90	96	108	120
	$h_{ef,max}$	mm	160	200	240	320	400	480	540	600
Diameter of the bore in the plate <sup>(1)</sup>	df non-through-bore	mm	9	12	14	18	22	26	30	33
	df through-bore	mm	12	14	16	20	24	30	33	40
Required clamping torque	$T_{inst} \leq$	Nm	10	20	40 <sup>(2)</sup>	60	100	170	250	300
Minimum thickness of the concrete substrate	$h_{min}$	mm	$h_{ef} + 30 \text{ mm}$ $\geq 100 \text{ mm}$			$h_{ef} + 2d_0$				
Minimum spacing between bars	$S_{min}$	mm	40	50	60	75	95	115	125	140
Minimum distance from the edge	$C_{min}$	mm	35	40	45	50	60	65	75	80

(1) For applications under seismic action, the diameter of the through-bore must be a maximum of  $d1 + 1 \text{ mm}$ ; alternatively the annular space between the bore and the anchor bar must be filled with grout to the thickness of the plate.  
 (2) The maximum torque for M12 with class 4.6 steel is 35 Nm

Installation parameters for fastenings on concrete												
Anchoring size (reinforcement bars)			$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 20$	$\phi 24$	$\phi 25$	$\phi 28$	$\phi 32$
Bar diameter	$d=d_{nom}$	mm	8	10	12	14	16	20	24	25	28	32
Rated bore diameter <sup>(1)</sup>	$d_0$	mm	10/12	12/14	14/16	18	20	25	32	32	35	40
Effective anchoring depth	$h_{ef,min}$	mm	60	60	70	75	80	90	96	100	112	128
	$h_{ef,max}$	mm	160	200	240	280	320	400	480	500	560	640
Minimum thickness of the concrete substrate	$h_{min}$	mm	$h_{ef} + 30 \text{ mm}$ $\geq 100 \text{ mm}$			$h_{ef} + 2d_0$						
Minimum spacing between bars	$S_{min}$	mm	40	50	60	70	75	95	120	120	130	150
Minimum distance from the edge	$C_{min}$	mm	35	40	45	50	50	60	70	70	75	85

(1) both  $d_0$  rated bore diameters can be used.

### Recommended loads on concrete

All recommended loads apply only for single anchoring and for an approximate design, if the following conditions are met:

1.  $c \geq 1,5 \times h_{ef}$  ;  $s \geq 3,0 \times h_{ef}$  ;  $h \geq 2 \times h_{ef}$
2.  $\psi_{sus} = 1.0$ ; περιχρησιμοποιείται ως περιχρησιμοποιείται φορτίο/συνολικό φορτίο  $\leq \psi_{sus}0$  (ωστόσο προτιμάται η απλοποιημένη-σχεματική ταβέλα βελού).
3. cleaning: compressed air cleaning.
4. the recommended loads were calculated using the partial safety factors for the strengths stated in the ETA of the product and with a partial safety factor for actions of  $\gamma_f = 1.4$ .
5. the partial safety factor for seismic action is  $\gamma_1 = 1.0$ .

If the above conditions are not met, the loads must be calculated according to EN 1992-4.

The loads given in the following tables refer to a service life of 50 years.

#### Threaded bars

- Class 8.8 steel
- Concrete - C20 / 25
- Roto-percussion drill and compressed air drill
- Dry and wet concrete

M8 M10 M12 M16 M20 M24 M27 M30

Combined pull-out and concrete cone failure	40 °C / 24 °C (1)	$\psi_{sus}0 = 0,60$	non cracked	$N_{Rec,stat}$ [KN]	14,4	20,0	27,0	32,7	51,9	71,3	92,6	103,9
			cracked	$N_{Rec,stat}$ [KN]	4,8	6,7	9,9	15,0	25,4	32,3	43,3	51,9
	70 °C / 43 °C (1)	$\psi_{sus}0 = 0,60$	non cracked	$N_{Rec,stat}$ [KN]	4,8	6,7	9,9	13,9	23,6	32,3	43,3	51,9
			cracked	$N_{Rec,stat}$ [KN]	2,4	3,4	4,9	7,5	12,7	16,2	21,6	26,0
Shear strength without lever arm <sup>(2)</sup> <sup>(3)</sup>	non cracked	$V_{Rec,stat}$ [KN]	9,7	11,9	16,5	20,8	34,1	48,1	63,5	72,3		
	cracked	$V_{Rec,stat}$ [KN]	6,7	8,4	11,7	14,8	24,2	34,0	45,0	51,2		
Anchoring depth	$h_{ef}$	[mm]	80	90	110	125	170	210	250	270		
Distance from the edge	$c \geq$	[mm]	120	135	165	188	255	315	375	405		
Distance between bars	$s \geq$	[mm]	240	270	330	375	510	630	750	810		

Reinforcing bars

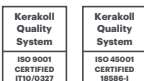
- B450C steel
- Concrete - C20 / 25
- Roto-percussion drill and compressed air drill
- Dry and wet concrete

φ8 φ10 φ12 φ14 φ16 φ20 φ24 φ25 φ28 φ32

Combined pull-out and concrete cone failure	40 °C / 24 °C <sup>(1)</sup>	Ψ <sub>sus0</sub> = 0,60	non cracked	N <sub>Rec,stat</sub> [KN]	9,6	13,5	19,3	20,6	23,4	37,1	49,1	50,9	66,1	74,2
			cracked	N <sub>Rec,stat</sub> [KN]	4,1	6,7	9,9	11,2	13,9	21,8	31,5	33,7	41,1	50,8
	70 °C / 43 °C <sup>(1)</sup>	Ψ <sub>sus0</sub> = 0,60	non cracked	N <sub>Rec,stat</sub> [KN]	11,5	16,2	23,7	28,9	32,7	51,9	68,8	71,3	92,6	103,9
			cracked	N <sub>Rec,stat</sub> [KN]	1,7	2,4	3,5	4,3	5,3	9,1	13,1	14,0	18,7	23,1
Shear strength without lever arm <sup>(2) (3)</sup>	non cracked	V <sub>Rec,stat</sub> [KN]	6,7	10,5	14,8	18,8	20,8	34,1	46,4	48,4	63,8	73,0		
	cracked	V <sub>Rec,stat</sub> [KN]	4,8	6,7	9,9	12,0	14,8	24,2	32,8	34,3	45,2	51,7		
Anchoring depth		h <sub>ef</sub> [mm]	80	90	110	115	125	170	205	210	250	270		
Distance from the edge		c ≥ [mm]	120	135	165	173	188	155	308	315	375	405		
Distance between bars		s ≥ [mm]	240	270	330	345	375	510	615	630	750	810		

Notes:

- (1) Short-term temperature / Long-term temperature.
- (2) Shear loads refer to the specified temperature ranges.
- (3) The space between the anchoring bar and the bore in the plate must be filled with resin



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