

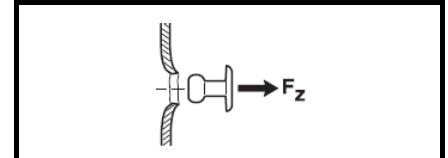
### SOL-R-ASO-D-64150 with DeltaSeal coating

for SOL-R product only!



$\varnothing = 6.4 \text{ mm}$   
 $l = 15 \text{ mm}$   
 $KL = 8 - 9.5 \text{ mm}$   
 $\text{predrill-}\varnothing = 6.7 \text{ mm}$

#### Pull-out load $F_z$ (N)



#### Material type

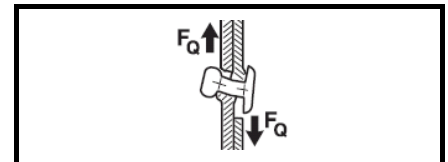
**fastener:**  
 eyelet:  
 aluminum AlMg2.5  
 finish: DeltaSeal  
 mandrel:  
 stainless steel A2  
 1.4541  
 $\varnothing = 3.65 \text{ mm}$

**metal sheet:**  
 steel & aluminum

**head type**  
 dome head  
 $\varnothing = 13.0 \text{ mm}$

Part I (blind side)			Part II = 7.5 mm (setting side)			Test results (N)		
Material grade	$R_{m,min}$	$t_I$ (mm)	Material grade	$t_{II}$ (mm)	KL in mm	$F_{z,avg}$	s	$R_k$
<b>Steel sheet</b>			<b>Steel</b>					
S350	390 N/mm <sup>2</sup>	0.50	S350	7.50	8.00	874	37	607
S350	390 N/mm <sup>2</sup>	0.63	S355	7.50	8.13	1269	56	931
S320GD	390 N/mm <sup>2</sup>	0.75	S355	7.50	8.25	1689	93	1231
S320GD	390 N/mm <sup>2</sup>	1.00	S355	7.50	8.50	2422	57	1876
<b>Aluminum sheet</b>								
AlMg3 1/4 harl	220 N/mm <sup>2</sup>	0.60	S355	7.50	8.10	617	13	476
AlMg3 1/4 harl	220 N/mm <sup>2</sup>	0.70	S355	7.50	8.20	765	18	572

#### Shear load $F_q$ (N)



Part I (blind side)			Part II = 7.5 mm (setting side)			Test results (N)		
Material grade	$R_{m,min}$	$t_I$ (mm)	Material grade	$t_{II}$ (mm)	KL in mm	$F_{q,avg}$	s	$R_k$
<b>Steel sheet</b>			<b>Steel</b>					
S350	390 N/mm <sup>2</sup>	0.50	S350	7.50	8.00	1862	23	1380
S350GD	390 N/mm <sup>2</sup>	0.63	S355	7.50	8.13	2435	60	1865
S320GD	390 N/mm <sup>2</sup>	0.75	S355	7.50	8.25	2574	43	2043
S320GD	390 N/mm <sup>2</sup>	1.00	S355	7.50	8.50	2916	30	2324
<b>Aluminum sheet</b>								
AlMg3 1/4 harl	220 N/mm <sup>2</sup>	0.60	S355	7.50	8.10	1212	24	938
AlMg3 1/4 harl	220 N/mm <sup>2</sup>	0.70	S355	7.50	8.20	1469	22	1119

#### Variable description:

- $R_{m,min}$  = is the minimum standard tensile strength of Part I
- $t$  = is the nominal steel thickness of Part I
- $\bar{F}_{avg}$  = are the arithmetic mean values of test results.
- $s$  = is the standard deviation.
- $R_k$  = is the characteristic resistance of fastenings according to the EN requirements

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 $l = 15 \text{ mm}$   
 $KL = 8 - 9.5 \text{ mm}$   
 $\text{predrill-}\varnothing = 6.7 \text{ mm}$



#### Material type

##### fastener:

eyelet:  
 aluminum AlMg2.5  
 finish: DeltaSeal  
 mandrel:  
 stainless steel A2  
 1.4541  
 $\varnothing = 3.65 \text{ mm}$

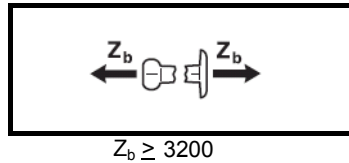
##### metal sheet:

steel & aluminum

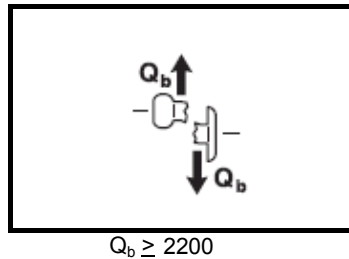
##### head type

dome head  
 $\varnothing = 13.0 \text{ mm}$

#### Tensile breaking load $Z_b$ (N)

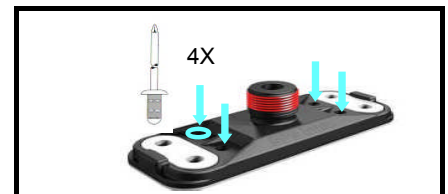


#### Shear breaking load $Q_b$ (N)



#### Application specific test $F_z$ & $F_q$ (N)

with 4 x SOL-R-ASO-D-64150



Part I  
(blind side)

Part II = 7.5 mm  
(setting side)

Material grade	$R_{m,min}$	$t_l$ (mm)	Material grade	$t_{II}$ (mm)	KL in mm	Test results (N)		
						$F_{z,avg}$	s	$R_k$
Steel sheet			SOL-R					
S320	390 N/mm <sup>2</sup>	0.75	PPA	7.50	8.25	4464	75	

Material grade	$R_{m,min}$	$t_l$ (mm)	Material grade	$t_{II}$ (mm)	KL in mm	Test results (N)		
						$F_{q,avg}$	s	$R_k$
Steel sheet			SOL-R					
S320	390 N/mm <sup>2</sup>	0.50	PPA	7.50	8.00	1157	75	

All calculations, measurements, fasteners and design methods have to be verified by a responsible designer or engineer, regarding the corresponding structure and load. Please consult your national norms and approvals.