

SELF-DRILLING SCREW WITH REDUCED DRILL POINT - PAN HEAD WITH SQUARE RECESS

General description

The VRD self-drilling screw is designed to assemble 2 metal sheets in one single operation.

This screw is specially designed to minimize air leakage at drill point : the diameter of the drill is designed so that the drill of the screw does not exceed the diameter of the screw's shank. The threaded shank will then perfectly fit into the hole. Thanks to this reduced drill, the VRD assures a better **air tightness**.

It can drill into a combined total thickness of 1,9mm.

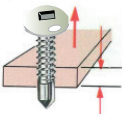
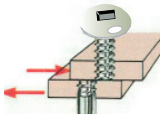
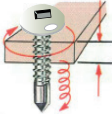
The VRD screw has a square recess. Thanks to its drill point, no need to punch a hole or drill beforehand.



Technical description

- Made of hardened carbon steel
- Zinc plated (free of hexavalent chromium)
- Pan head with square recess
- Delivered with the appropriate hexagonal bit in each box
- Serration under the head for a better grip
- Manufactured according to DIN 7504

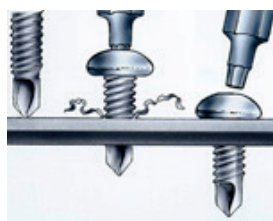
Technical specifications

MECHANICAL TEST DATA						
SCREW DIA.	BIT SIZE	STEEL SHEET THICKNESS	TENSION PULL-OUT 	SHEAR (TWO SHEETS OVERLAP) 	TENSIL STRENGTH 	TORQUE 
3,5 mm	KH1	0,9 mm	110 kg	320 kg	500 kg	2,8 Nm
		1,2 mm	170 kg	370 kg		
		1,5 mm	210 kg	380 kg		
		1,9 mm	380 kg	400 kg		
4,2 mm	KH2	0,9 mm	120 kg	330 kg	700 kg	4,7 Nm
		1,2 mm	180 kg	390 kg		
		1,5 mm	210 kg	450 kg		
		1,9 mm	400 kg	460 kg		
4,8 mm	KH2	0,9 mm	150 kg	370 kg	1000kg	7,3 Nm
		1,2 mm	240 kg	540 kg		
		1,5 mm	310 kg	600 kg		
		1,9 mm	430 kg	640 kg		

The values listed are ultimate averages achieved under standard laboratory conditions. These results are given only as a guide and not as a warranty. An appropriate safety factor must be determined for the designed purpose.

Storage: In a dry place

Application



- Self-drilling screws are designed to perform best when driven at 1800 to 2500 rpm.
- Drill point length must exceed total thickness of material to be fastened including gaps.
- Overdriving may result in torsion failure of screws or strip out of the fastening grip.
- The screw must penetrate beyond the metal structure with a minimum of 3 threads.

Information contained herein is based on careful tests and experience. It reflects our knowledge and is for guidance purpose only. It is given in good faith and user should ensure that the product is fit for purpose before any application. The quoted values are average and should not be taken as maximum or minimum values for specific purposes. Manufacturer and distributor are not responsible for any non-recommended use or consequential damage.

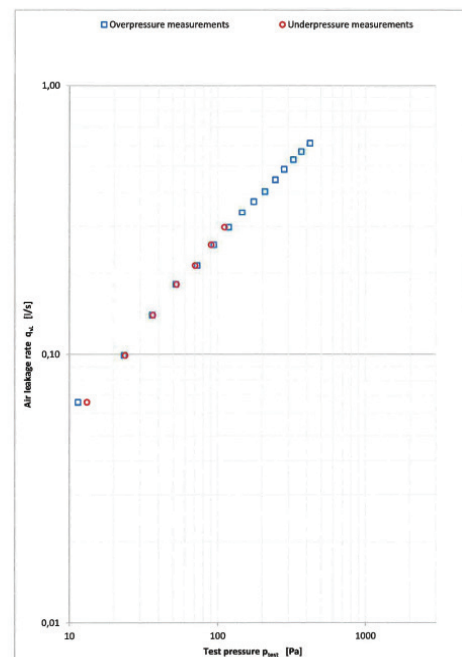
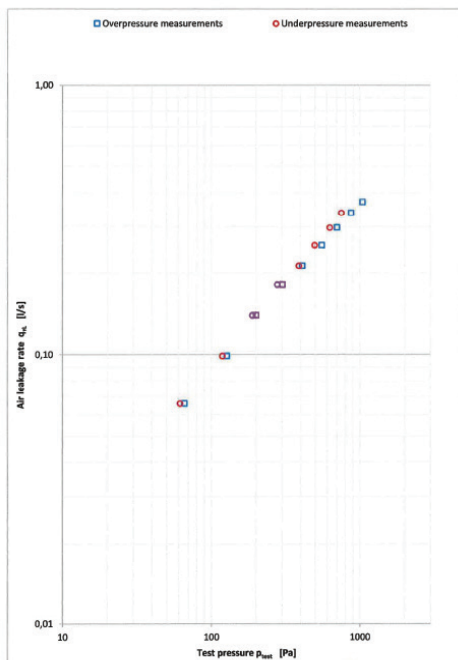
2017.05.02

Airtightness test report

VRD


 DE 633X198
VE 293/11/EN
Page 5/5


VDK


 DE 633X198
VE 293/12/EN
Page 5/5


Ces informations reflètent notre connaissance actuelle et sont données de bonne foi. Les valeurs données sont des valeurs moyennes et sujettes à tout changement sans préavis. Toute utilisation dans des conditions non recommandées ne saurait engager la responsabilité du fabricant et du distributeur, dû aux possibles variations de fabrication et d'application par les utilisateurs. Il est recommandé aux utilisateurs de tester préalablement les produits afin de s'assurer qu'ils conviennent à l'application choisie.

2017.05.02

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VRD


 DE 633X198
 VE 293/11/EN
 Page 3/5
Description of the sample

Strip made of galvanized steel (thickness 0,6 mm - width 17 mm)
 fixed on a circular sheet metal duct (diameter 200 mm - length 750 mm) by means of
 100 self-drilling screws made of zinc plated steel with round head with square recess
 (4,2 x 13 mm Climtech VRD)

Measuring devices:

Platon GTLK

Calibration:

22-05-1989

Organization:

Platon

Minneapolis DG700/01

8-04-2014

CSTC-WTCB

Airflow TA400-P

18-06-2013

TSI Airflow

Airflow TA460-P

18-06-2013

TSI Airflow

Reference values for the ductwork:
 Diameter of the ductwork 0,2 m
 Length of the ductwork 0,8 m
Date of test: 13-06-2014

Measurements - Positive pressure			
Air temperature	21	°C	
Barometric pressure	100535	Pa	
Test pressure P_{test} (Pa)	Air leakage rate q_{le} (l/s)		
66	0,066		
127	0,099		
201	0,140		
302	0,181		
409	0,214		
554	0,255		
701	0,297		
870	0,34		
1043	0,37		

Measurements - Negative pressure			
Air temperature	21,35	°C	
Barometric pressure	100530	Pa	
Test pressure P_{test} (Pa)	Air leakage rate q_{le} (l/s)		
-62	0,066		
-119	0,099		
-189	0,140		
-279	0,181		
-389	0,214		
-497	0,255		
-627	0,296		
-748	0,34		

Normalized values			
Static pressure (Pa)	Leakage air flow (l/s)	Static pressure (Pa)	Leakage air flow (l/s)
100	0,09	-75	0,07
250	0,16	-100	0,09
500	0,24	-250	0,16
750	0,31	-500	0,26
1000	0,37	-750	0,34

VDK


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Date of test: 13-06-2014

Measurements - Positive pressure			
Air temperature	21	°C	
Barometric pressure	100680	Pa	
Test pressure P_{test} (Pa)	Air leakage rate q_{le} (l/s)		
11	0,066		
23	0,099		
36	0,140		
52	0,182		
73	0,215		
94	0,256		
119	0,297		
146	0,34		
175	0,37		
208	0,40		
245	0,45		
281	0,49		
324	0,53		
367	0,57		
422	0,61		

Measurements - Negative pressure			
Air temperature	20,65	°C	
Barometric pressure	100695	Pa	
Test pressure P_{test} (Pa)	Air leakage rate q_{le} (l/s)		
-13	0,066		
-24	0,099		
-37	0,140		
-53	0,182		
-70	0,215		
-90	0,256		
-111	0,297		

Normalized values			
Static pressure (Pa)	Leakage air flow (l/s)	Static pressure (Pa)	Leakage air flow (l/s)
20	0,10	-20	0,09
50	0,17	-30	0,12
100	0,26	-60	0,17
250	0,46	-75	0,23
400	0,61	-100	0,28

Full report on request

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