

Wind class test BEAUFORT 2.0

EN13561:2015

Set-up and test conditions:

EN 1932:2013: External blinds and shutters - Resistance to wind loads

Method of testing and performance criteria

- As loading method, Method N°2 (use of a uniformly distributed weight) has been chosen for. The test equipment differs slightly from what is prescribed, namely;
 - Instead of a mattress we used packaging plastic with air compartments. Since this material has a lower stiffness, the test becomes more demanding. So test results are more likely to be underestimated.
 - Instead of at least 9 loads per square meter we used plastic containers filled with pebble-stones.
 - These conditions are equal to those used on former windclass tests which were approved by TUV (see certificate Z1 15 10 54317 001)
- Blinds are fixed in recess with screws with spacing varying between 70 and 100cm.
- The steel frame is only located at the side guiding and in some cases at the box. There is no extra support of bottom bar.

Although we provide extra safety brackets depending on the blind size, this test becomes by this more demanding on the system. The aim of the safety brackets is to provide extra safety against ageing and metal fatigue. It does not exclude the their necessity

- As described in paragraph 7.4.4., the bottom bar is blocked at the 2 extremities. Locking is carried out without exerting tension on the bottom bar which would favor the result.

Test results:

EN 13561, External blinds and awnings - Performance requirements including safety

Obtained wind class levels for boxes 100 & 125 with tubes 63,78 and 85:

Pos.	Width	Height	Tube Ø	Box	Surface	Test load	Class obtained
	mm	mm	mm	mm	m ²	N	
1	3000	3500	63	100	10,5	5040	6
2	3450	2400	63	100	8,28	3970	6
3	4000	2700	78	100	10,8	5200	6
4	4300	4200	78	125	18,06	7980	5
5	3000	5500	78	125	16,5	7920	6
6	5500	3500	85	125	19,25	6240	5

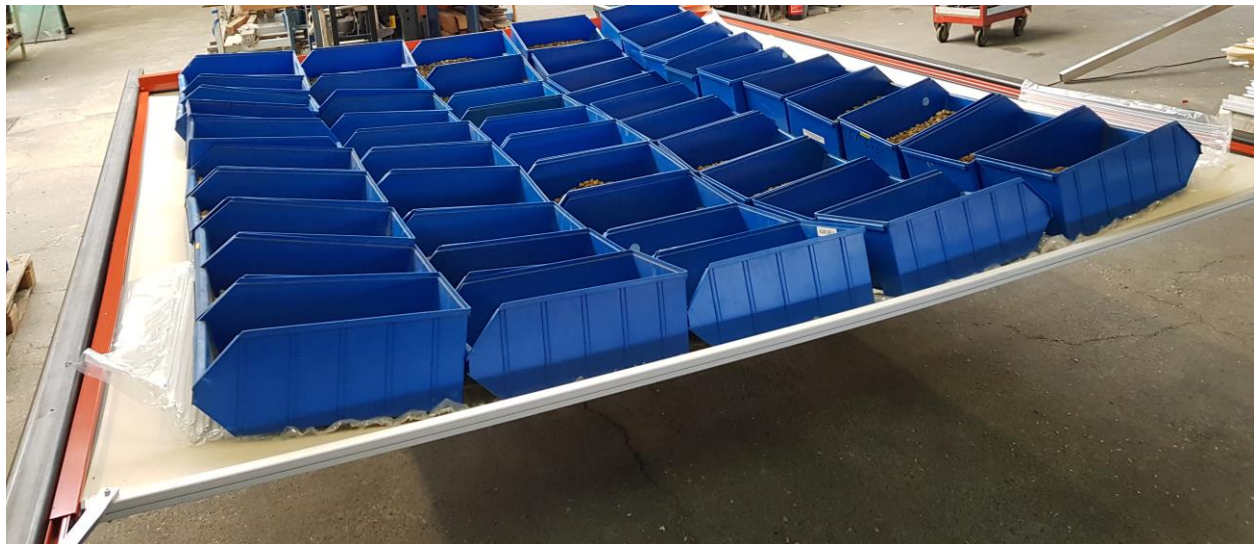
Remark on test sequence 3: value 'd' could not always be obtained. Test performed up to maximal lifting possibility

Test sample 1:

Test sequence results and illustrations:

Features	
Box (mm)	100 x 100
Width (mm)	3000
Height (mm)	3500
Tube Ø (mm)	63
Surface (m ²)	10,5

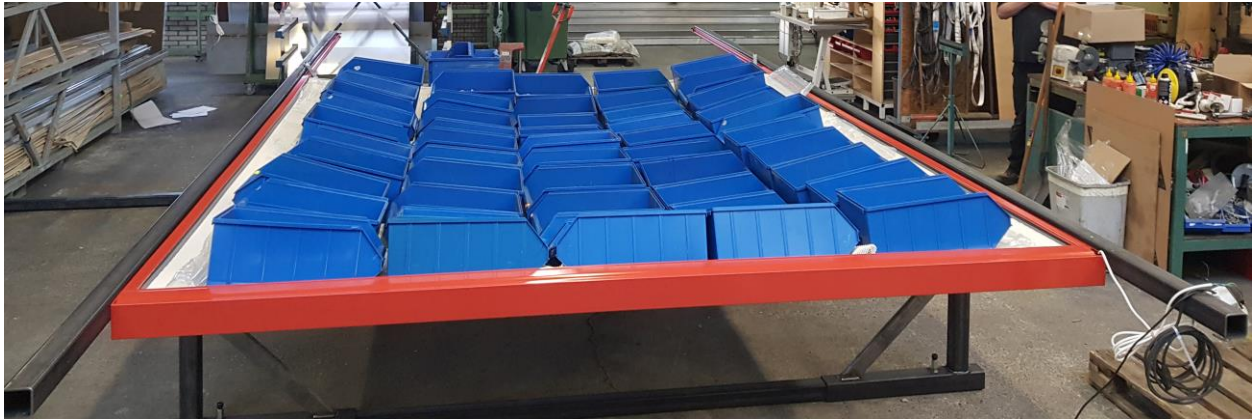
Direct safety loading: 5040N



Direct safety loading: 5040N



Reverse safety loading: 5040N



After loading:



Examination of the awning:

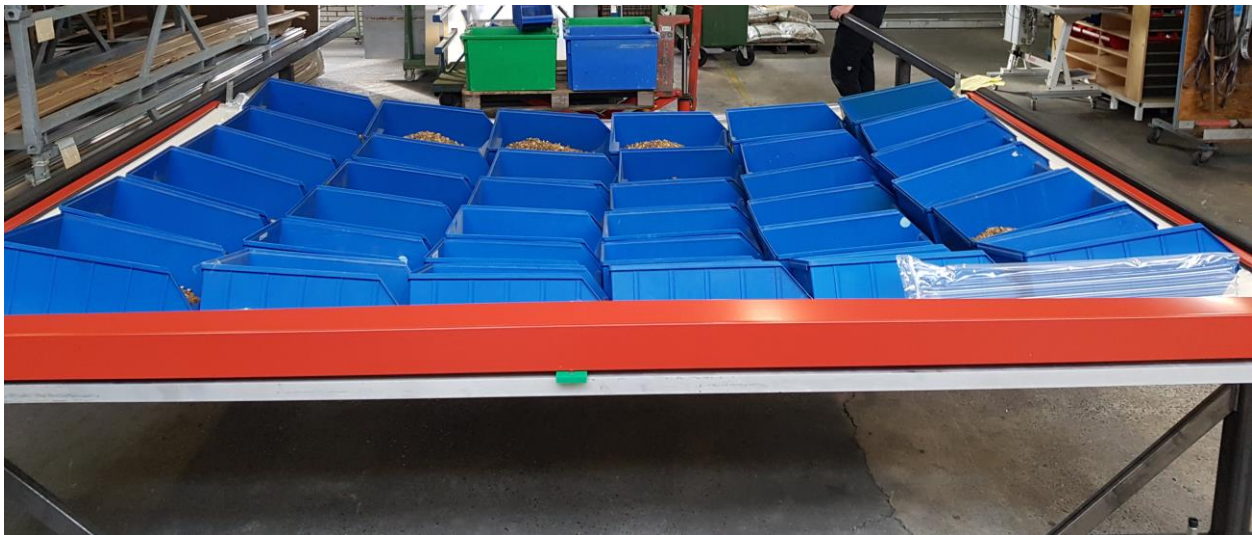
Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No

Test sample 2:

Test sequence results and illustrations:

Features	
Box (mm)	100 x 100
Width (mm)	3450
Height (mm)	2400
Tube Ø (mm)	63
Surface (m ²)	8,28

Direct safety loading: 3970N



After loading:



Reverse safety loading: 3970N



Examination of the awning:

Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No

Test sample 3:

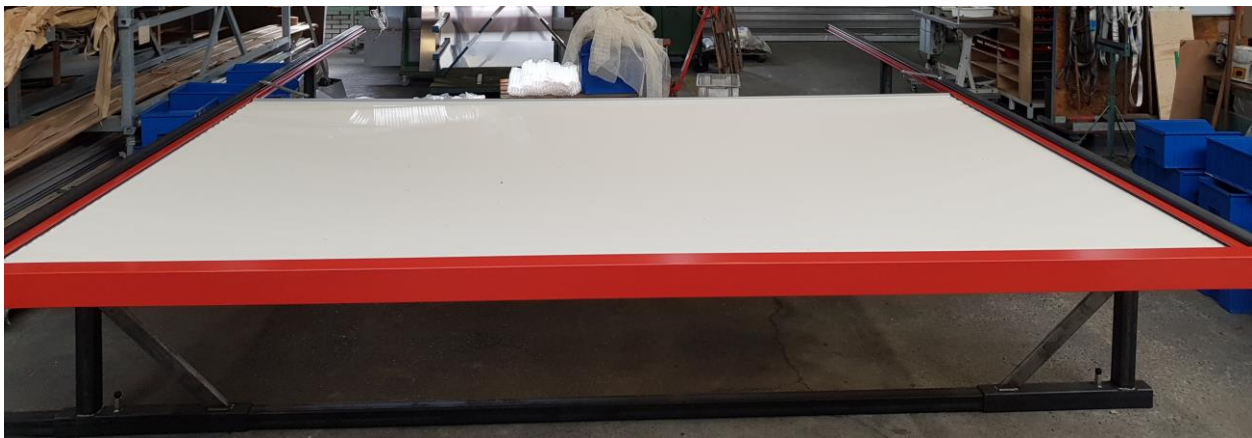
Test sequence results and illustrations:

Features	
Box (mm)	100 x 100
Width (mm)	4000
Height (mm)	2700
Tube Ø (mm)	78
Surface (m ²)	10,8

Direct safety loading: 5200N



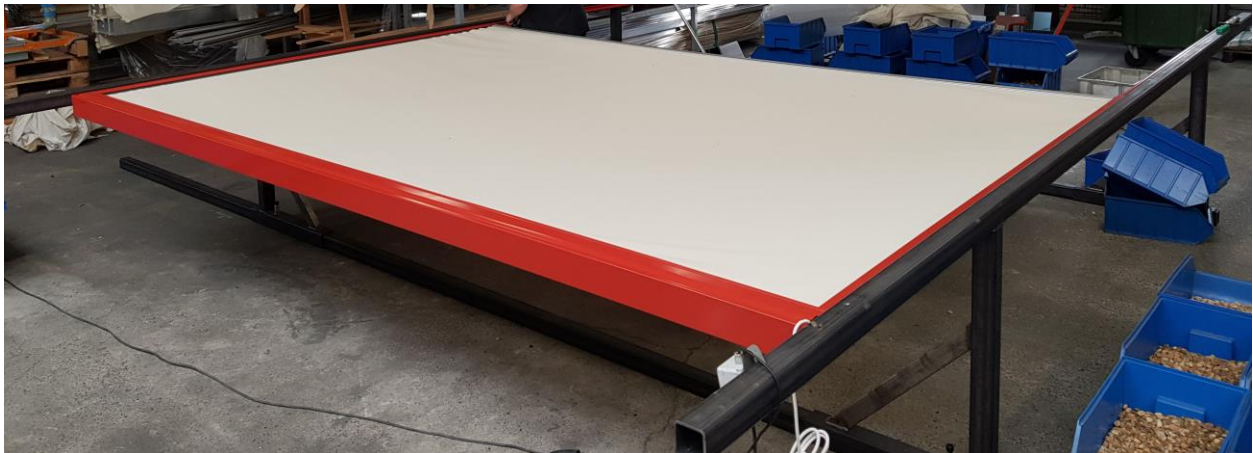
After loading:



Reverse safety loading: 5200N



After reverse loading:



Examination of the awning:

Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No

Test sample 4:

Test sequence results and illustrations:

Features	
Box (mm)	125 X 125
Width (mm)	4300
Height (mm)	4200
Tube Ø (mm)	78
Surface (m ²)	18,06

Direct safety load: 5850N



After loading:



The maximum load obtained amounts to 7980N. This value is used to define our wind class 6 region for smaller dimensions taking into account an extra safety margin of 10%.

Examination of the awning:

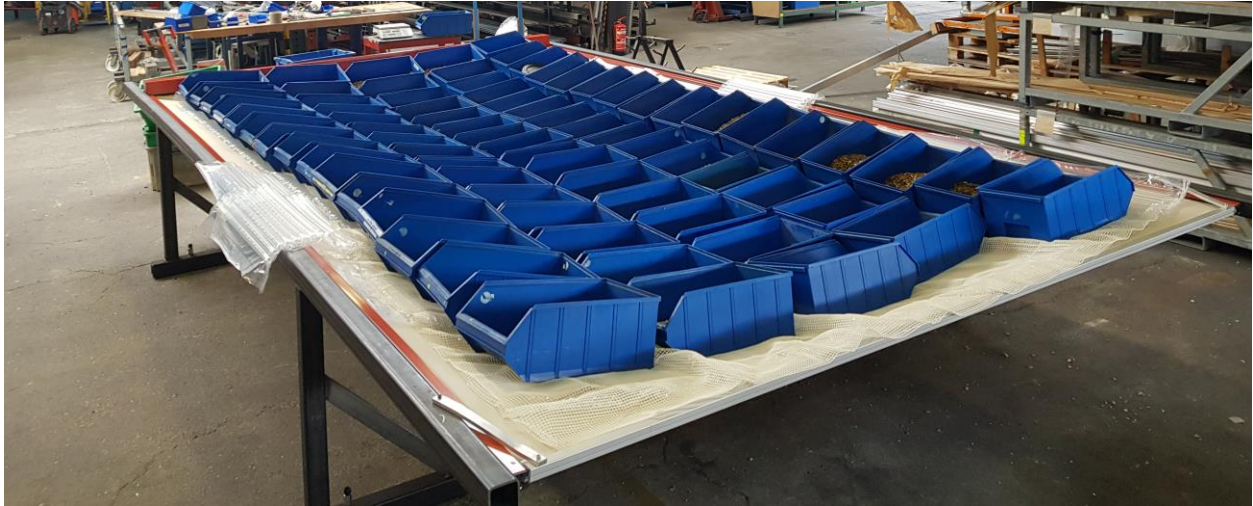
Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No

Test sample 5:

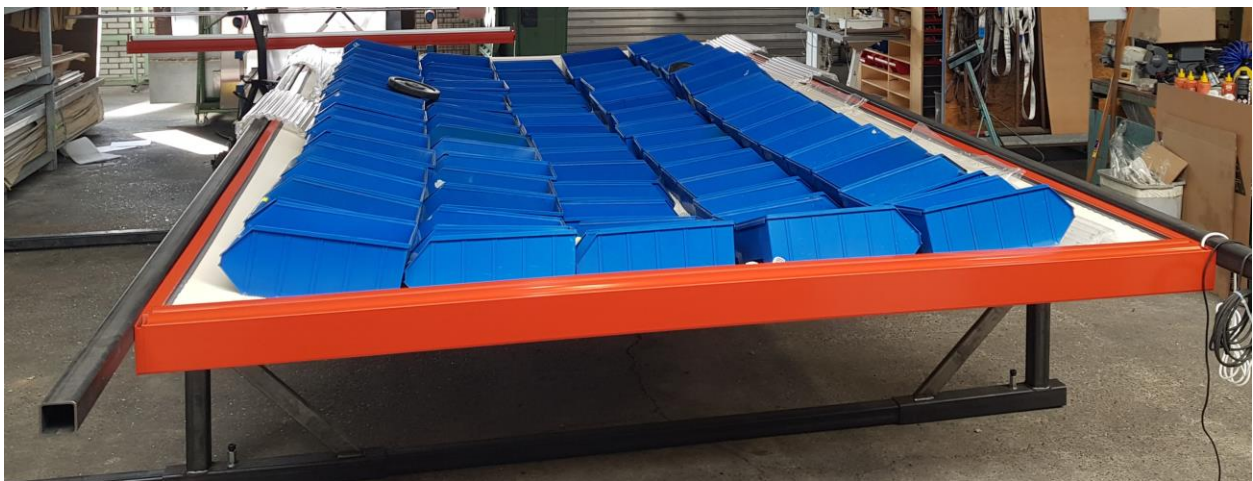
Test sequence results and illustrations:

Features	
Box (mm)	125 X 125
Width (mm)	3000
Height (mm)	5500
Tube Ø (mm)	78
Surface (m ²)	16,5

Direct safety loading: 7920N



Reverse safety loading: 7920N



After reverse loading:



Examination of the awning:

Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No

Test sample 6:

Test sequence results and illustrations:

Features	
Box (mm)	125 X 125
Width (mm)	5500
Height (mm)	3500
Tube Ø (mm)	85
Surface (m ²)	19,25

Direct safety loading: 6240N



After loading:



Examination of the awning:

Sequence 1 & 2	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No
Sequence 3	
Tearing in fabric	No
Any breaking	No
Permanent deformation	No
Exit from guide rails	No