Short-term heat resistance of cured sealants

Merbenit®

Merbenit PC200

Tensile strength by dumbbell shape according to DIN 53504

Aim

- Control of the technical properties after heat stress
- Heat stress of the cured specimens / sealant in a muffle furnace - «Linn High Therm 400»
- Testing of the mechanical properties according to DIN 53504 after heat stress

Reference
No relevant influence on technical values, surface, weight loss destruction, adhesiveness / decomposition, yellowing Overall rating > OK
Slight influence on technical values, surface, weight loss destruction, adhesiveness / decomposition, yellowing Overall rating > OK
Strong influence on technical values, surface texture, weight loss destruction, adhesiveness / decomposition, yellowing) Overall rating > Partially to strong negative impact
Starting destruction of sealant decomposition of sealant
Advanced destruction of sealant decomposition of sealant

Conventional adhesive

Temp. [°C]	Time [min]	Tensile strength [N/mm²]	Elongation at break [%]	Modulus 100% [N/mm²]	Modulus 200% [N/mm²]	Weight loss [%]
23	0	3.2	441	1.35	2.11	0
200	10	3.3	597	0.82	1.42	12.7
200	20	2.9	604	0.66	1.18	19.2
200	30	1.2	271	0.35	0.63	26.8

Merbenit PC200 - Batch no. 50766826

Temp. [°C]	Time [min]	Tensile strength [N/mm²]	Elongation at break [%]	Modulus 100% [N/mm²]	Modulus 200% [N/mm²]	Weight loss [%]
23	0	3.2	261	1.97	2.74	0
200	120	3.2	248	1.88	2.85	0.9
210	60	3.1	235	1.96	2.90	0.7
220	45	3.0	237	1.83	2.75	0.6
230	30	3.0	249	1.86	2.77	0.6
240	20	2.9	246	1.82	2.70	0.6

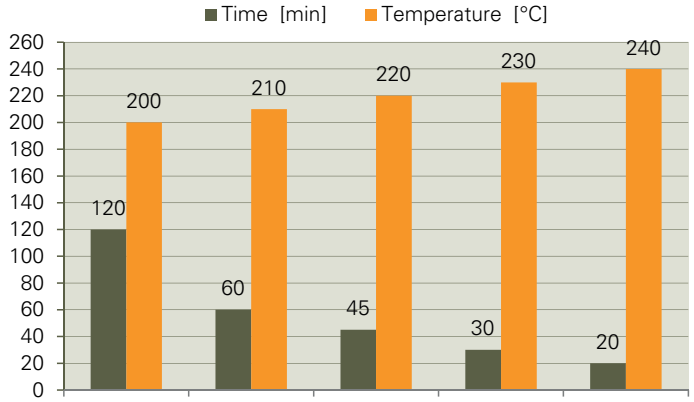
Maximum recommended process conditions

Short-term heat resistance of cured sealants Merbenit PC200

Lap shear strength on the basis DIN EN 1465

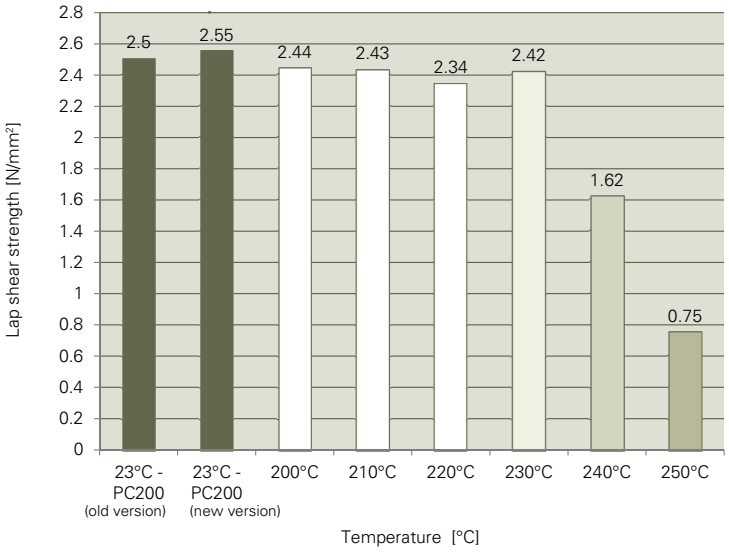
Maximum recommended process conditions based on lap shear strength

Product	Merbenit PC200, Batch no. 50766826
Specimen	Aluminium anodised
Primer	Adhesion promoter V2
Coat thickness	1 mm
Prestocking	9 days at 23 °C and 50 % r.h.
Time of heat stress	**Variable**
Test temperature	**Variable**
Oven	Heating cabine «Linn High Term 400» (muffle furnace)
Paint / Varnish	None



Lap shear strength after 30 min of heat stress

Product	Merbenit PC200, Laboratory batches 1+2
Specimen	Aluminium anodised
Primer	Adhesion promoter V2
Coat thickness	1 mm
Prestocking	9 days at 23 °C and 50 % r.h.
Time of heat stress	**30 min.**
Test temperature	**Variable**
Oven	Heating cabine «Linn High Term 400» (muffle furnace)
Paint / Varnish	None



merz+benteli ag

Freiburgstrasse 616
CH-3172 Niederwangen
Phone +41 31 980 48 48
Fax +41 31 980 48 49
info@merz-benteli.ch
www.merz-benteli.ch