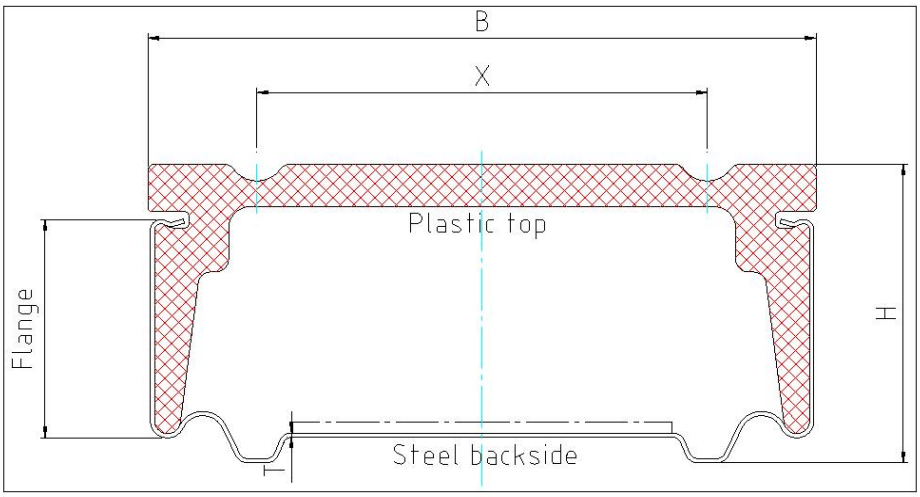
CHROMATECH ultra

Spacer bar

ROLLTECH A/S - an Alu-Pro Group Company

1. Spacer properties

1.1 Cross section and tolerances



Spacer bar	Cavity [mm]	H +/- 0.20 [mm]	Flange +/- 0.1 [mm]	B -0.05 / + 0,25 [mm]	X +/- 0.1 [mm]	T [mm]
CHROMATECH ultra 8	8	7.0	5.1	7.5	--	0.10
CHROMATECH ultra 10	10	7.0	5.1	9.5	4.45	0.10
CHROMATECH ultra 12	12	7.0	5.1	11.5	6.45	0.10
CHROMATECH ultra 14	14	7.0	5.1	13.5	Q3 2009	0.10
CHROMATECH ultra 15	15	7.0	5.1	14.5	Q3 2009	0.10
CHROMATECH ultra 16	16	7.0	5.1	15.5	10.45	0.10
CHROMATECH ultra 18	18	7.0	5.1	17.5	Q3 2009	0.10
CHROMATECH ultra 20	20	7.0	5.1	19.5	14.45	0.10

* Other cavities will follow successively according to demand and planning.

EN 1279-6 reference to table A.2 & A.5

Ref. No.	EN Ref.	Description/specification	Internal test method
Further Spacer properties			
1.2	**2.3** **2.4**	**Geometry/shape** The spacer geometry is shown in the cross section picture above. On enquiry a specific drawing can be delivered. Tolerances above.	Slide gauge and inspection drift
1.3	**2.2**	**Length and straightness** Standard length is 6,000 mm +/- 10 mm. Straightness deviation 15 mm/m.	Steel ruler. Visual.
1.4	**2.7**	**Undesired openings.** The spacer is tight as the backside is one uninterrupted piece of material. Plastic and steel are glued together with a PU hotmelt.	Process validation.
1.5	**2.6**	**Perforation. Se comments below **** Measured with airflow.	Flow meter.

2.0 Spacer material			
2.1		**Material** Steel material used is according to DIN EN 10 088 type 1.4301 (AISI 304) or 1.4372 (AISI 201). Thermal conductance λ_s = 15 W/mK at 20 °C. Plastic material is a polycarbonate. λ_p = 0.24 W/mK.	*Documented by supplier.*
2.2	**2.5**	**Surface** The surface is clean and do not undergo any treatment with chemicals. The appearance is mat. RAL colours 9004, 7035 and 7040.	Visual test & Adhesion test.
2.3		**Tolerances of the material** The wall thickness of the spacer is 0.10 mm +/- 0.006 mm.	Micrometer.
2.4		**Lubrication** During the forming of the spacer lubrication is used. The lubrication will evaporate and leave the surface practically without any volatile elements.	Adhesion test.
2.5	**2.8**	**Volatile elements** Volatile elements are tested according to EN 1279-6 annex G. Relative to the spacer weight the maximum volatile content is 0.05 %.	Weight loss test $M_v \leq 0{,}05\%$ rel.

**** 1.5.1 Level of perforation**
The Rolltech standard perforation will reduce the absorption of aqueous vapour to be app. 1.0 weight % over a period of 24 hours (16 mm cavity tested by Grace Davidson Europe) - relative to the spacer size. The perforation is targeted EN 1279 - 6 annex A – specified maximum preload $H_2o \leq 3$ %.

**** 1.5.2 Function of the perforation**
The perforation holes are until a certain particle size able to detain dust from the desiccant. This point is particular related to the performance of the bending machine and to the desiccant quality. An incorrect adjustment of the bending tool can cause damage to the perforation.

3.0 Quality aspects

3.1 Quality management
Rolltech is certified according to DS EN ISO 9001.

3.2 Tests of the product
Processes and routines are established to secure the quality of the delivered material. During production the spacers are constantly monitored through random checks. Data will be available for a period of 5 years.

3.3 Quality agreement
Rolltech fulfil the requirements of EN 1279 - 6 annex A. Specific quality agreement can be made to reduce inspection and test of the incoming material according to EN1279-6 part 5.2.6.

4.0 Customer focus

4.1 Storage
To secure the performance of the spacers, the stock conditions must be acceptable. Broken packaging, high humidity and variations in temperature will have an effect on the spacer surface. It is recommended to check out these specific points.

4.2 Adhesion check
When preparing samples for adhesion test according to EN1279-6 F3.2.2 make sure the spacer backside is covered and into contact with the sealant. When pulling the samples support the spacer inside to avoid deformation. If the spacer deforms the adhesion test can fail!

4.3 Pressure
Deformation by pressure such as wind load and weight load by horizontal installation.

Compression data for a 16 mm CU cavity:
50 N/cm → 0 mm; 80 N/cm → 0.3 mm; 110 N/cm → 0.5 mm.

4.4 System performance
It is always necessary to check if the system consisting of spacer, bending machine and related corner quality, connector/corner and desiccant works well together.

For an organic spacer also compatibility is an issue.