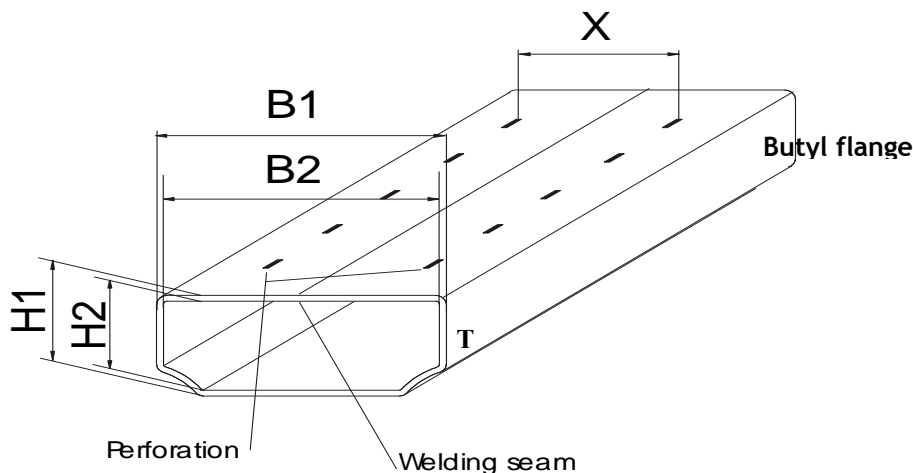


## 1. Spacer properties

### 1.1 Cross section and tolerances



Spacer bar	Cavity [mm]	H1 +/- 0,1 [mm]	H2 +/- 0,1 [mm]	Flange +/- 0,1 [mm]	B1 +/- 0,1 [mm]	B2 +/- 0,1 [mm]	X [mm]	T [mm]
Chromatech 8	8	6.5	6.1	5	7.5	7.1	3.8	0.18
Chromatech 10	10	6.5	6.1	5	9.5	9.1	4.8	0.18
Chromatech 12	12	6.5	6.1	5	11.5	11.1	5.8	0.18
Chromatech 14	14	6.5	6.1	5	13.5	13.1	7.4	0.18
Chromatech 15	15	6.5	6.1	5	14.5	14.1	7.5	0.18
Chromatech 16	16	6.5	6.1	5	15.5	15.1	9.0	0.18
Chromatech 18	18	6.5	6.1	5	17.5	17.1	10.5	0.18
Chromatech 20	20	6.5	6.1	5	19.5	19.1	9.8	0.18
Chromatech 24	24	6.5	6.1	5	23.5	23.1	16.5	0.18

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

Ref. No.	EN Ref.	Description/specification	Internal test method
<b>Further Spacer properties</b>			
1.2	2.3 2.4	<b>Geometry/shape</b> The spacer geometry is shown in the cross section picture above. On enquiry a specific drawing can be delivered. Tolerances above. Centre height measured at the welding is H1 + 0.05 – 0.15 mm.	Slide gauge and inspection drift
1.3	2.2	<b>Length and straightness</b> Standard length is 6,000 mm +/- 10 mm. Straightness deviation 10 mm/m.	Steel ruler. Visual.
1.4	2.7	<b>Welding</b> On the Chromatech spacer the welding is facing the inside of the bended frame. The welding is continuous and suitable for bending both pre-filled and empty.	Twirl test and Eddy Current test.
1.5	2.6	<b>Perforation. Se comments below **</b> Measured with airflow.	Flow meter.

<b>2.0 Spacer material</b>			
<b>2.1</b>		<b>Material</b> Material used is according to DIN EN 10 088 type 1.4301 (AISI 304) or 1.4372 (AISI 201). The thermal conductance is 15 W/mK.	
<b>2.2</b>	<b>2.5</b>	<b>Surface</b> The surface is clean and do not undergo any treatment with chemicals. The appearance is mat. Up on request the surface can be delivered painted with a polyester paint.	Visual test & Adhesion test.
<b>2.3</b>		<b>Tolerances of the material</b> The wall thickness of the spacer is 0.18 mm +/- 0.008 mm.	Micrometer.
<b>2.4</b>		<b>Lubrication</b> During the forming of the spacer lubrication is used. The lubrication will evaporate and leave the surface practically without any volatile elements.	Adhesion test.
<b>2.5</b>	<b>2.8</b>	<b>Volatile elements</b> Volatile elements are tested according to EN 1279-6 annex G. Relative to the spacer weight the maximum volatile content is 0.05 %. This includes painted spacers as well.	Weight loss test $M_v \leq 0,05\% \text{ rel.}$

#### \*\* 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. If not correct adjusted the bending can deform the spacer and disturb the function of the perforation holes. It is always necessary to check if the system consisting of spacer, bending machine and desiccant works well together.

### 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 3 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

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.