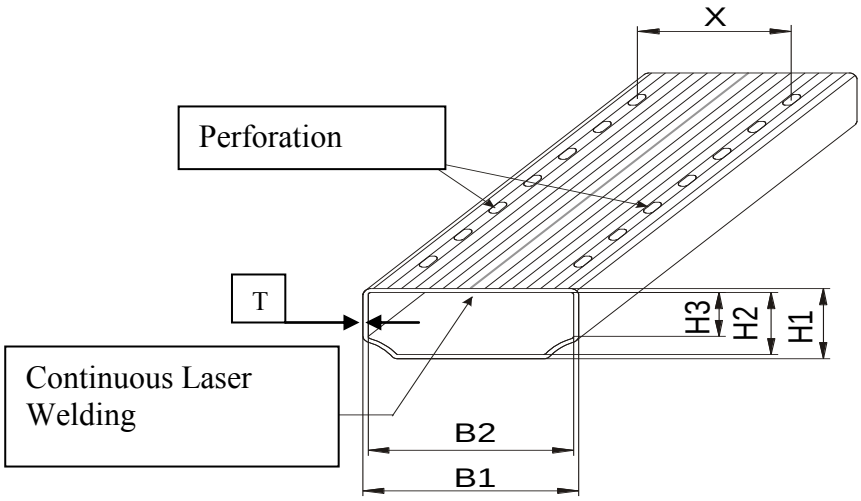
1. Spacer properties

1.1 Cross section and tolerances



Spacer bar	Cavity [mm]	H1 +/- 0,1 [mm]	H2 +/- 0,1 [mm]	H3 +/- 0,1 [mm]	B1 +/- 0,1 [mm]	B2 +/- 0,1 [mm]	X [mm]	T [mm]
Ferrotech 3 12	12	6.5	5.9	5	11.5	10.9	5.2	0.30
Ferrotech 3 15	15	6.5	5.9	5	14.5	13.9	8.2	0.30
Ferrotech 3 16	16	6.5	5.9	5	15.5	14.9	8,9	0.30

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 10 mm/m.	Steel ruler. Visual.
1.4	**2.7**	**Welding** On the Ferrotech 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**	**Perforation. Se comments below **** Measured with airflow.	Flow meter.

2.0 Spacer material			
2.1		**Material** Material used is according to DIN EN 10 142 for type DX51D+Z and DIN EN 10 147 for type S250/280 GD+Z.	
2.2	**2.5**	**Surface** As protection against corrosion Zinc is used, and the surface of the material is covered with a chromate to avoid oxidation. The chromate layer is able to secure adhesion to silicone, polysulphide and polyurethane. No oil is allowed (see also point 2.4). The surface is type MA or MB.	Visual test & Adhesion test.
2.3		**Tolerances of the material** The wall thickness of the spacer is 0.30 mm +/- 0.03 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 %. This includes painted spacers as well.	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. 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 and warranty

On all spacers ROLLTECH offers a 5 year product warranty. The warranty covers free exchange of spacers in case of a defect. The spacers must have been stored, installed and used according to present norms and technical standards. Special solutions and usage that are not standardized will need prior approval in writing from ROLLTECH in order to be covered.

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.