

## CHROMATECH Ultra®

The perfect warm edge

CHROMATECH Ultra®

Long - lasting and optimal IG - unit solution

“Warm edge” Properties	Spacer Bar CHROMATECH Ultra®
Thermal values	<ul style="list-style-type: none"> <li>• Low thermal transmittance</li> <li>• Outside stainless steel = 15 W/mK</li> <li>• Inside plastic material = 0.17 W/mK</li> <li>• Low <math>\Psi</math> (Psi) value</li> <li>• Higher surface temperature on the edge of glass</li> <li>• Minimal condensation</li> <li>• Uw improvement of 0.1 - 0.2 W/m<sup>2</sup>K</li> </ul>
IG-unit System	<ul style="list-style-type: none"> <li>• Minimal system risk</li> <li>• Fulfilment of EN 1279 part 2/3 and 6</li> <li>• No chemical condensation (Fogging)</li> <li>• High frame stability</li> <li>• Minimal shape and material changes secure long durability</li> <li>• High UV-resistance</li> </ul>
Workability	<ul style="list-style-type: none"> <li>• Bending with empty spacer bar</li> <li>• Bending with prefilled spacer bar</li> <li>• High productivity</li> <li>• Frames with corner keys</li> <li>• Also suitable for models</li> </ul>



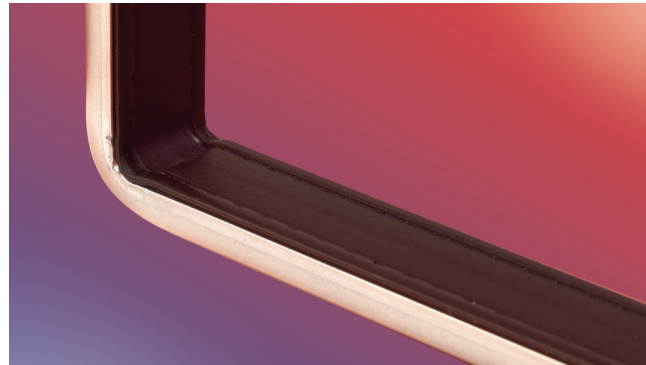
## CHROMATECH Ultra®

Considerably reduced cold-bridging in the IG-unit

Prevents:

- Condensation on the window and IG-unit
- Damage by fungus on the frame
- Reduction in heat loss (Uw value) 0.1 - 0.2 W/m<sup>2</sup>K

CHROMATECH Ultra® - the optimal solution

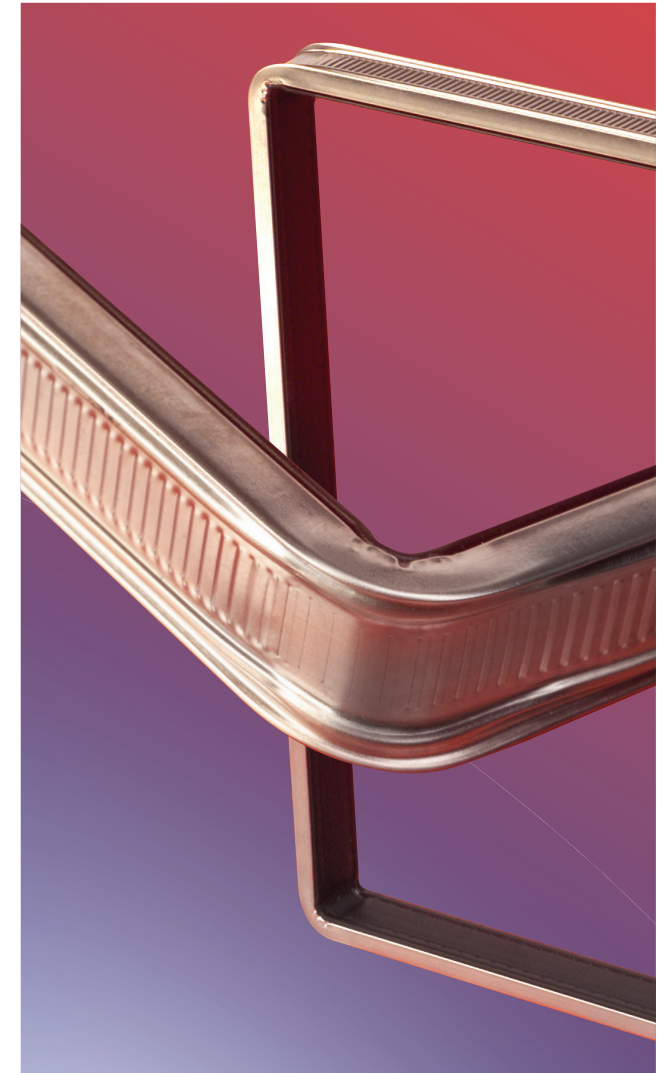


Via A. Einstein, 8  
30033 Noale (Ve) Italy  
Tel. +39 041 5897311  
Fax +93 041 5897320  
E-mail: [alupro@alupro.it](mailto:alupro@alupro.it)  
[www.alupro.it](http://www.alupro.it)



W. Brüels Vej 20  
DK-9800 Hjørring  
Tel. +45 96 23 33 43  
Fax +45 96 23 33 11  
E-mail: [info@rolltech.dk](mailto:info@rolltech.dk)  
[www.rolltech.dk](http://www.rolltech.dk)

Your Double Glazing/Window partner:



The resistance of stainless steel together with the low conductivity of plastic

## CHROMATECH Ultra®

The perfect warm edge profile

April 2013



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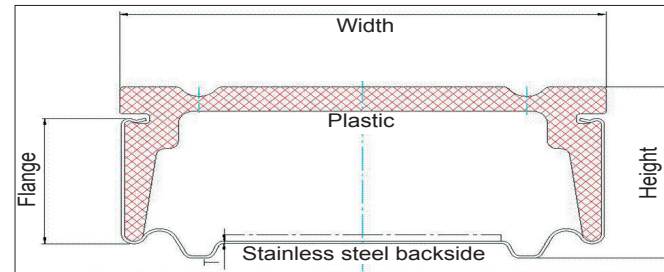
Excellent thermal performance, easy bending and excellent stiffness

The Chromatech range is composed of 3 different kinds of double glazing spacer bar:

- CHROMATECH®: stainless steel spacer bar in thickness 0.18 mm whose shape is very similar to the conventional aluminium spacer bar
- CHROMATECH Plus®: stainless steel spacer bar in thickness 0.15 mm having an innovative shape and corrugated surface on both wide sides
- CHROMATECH Ultra®: spacer bar composed of corrugated stainless steel in thickness 0.1 mm and plastic material top.

## CHROMATECH Ultra®

- The proven stainless steel technology together with the colour of a valuable plastic material.
- High stability of the spacer bar and perfect bending permit a production without difficulties.
- It can be bent on all spacer bar benders currently in the market.
- Excellent bending for a very good application of the butyl



TYPE	WIDTH	HEIGHT
CHROMATECH Ultra® 8	7.5	6.9
CHROMATECH Ultra® 10	9.5	6.9
CHROMATECH Ultra® 12	11.5	6.9
CHROMATECH Ultra® 14	13.5	6.9
CHROMATECH Ultra® 15	14.5	6.9
CHROMATECH Ultra® 16	15.5	6.9
CHROMATECH Ultra® 18	17.5	6.9
CHROMATECH Ultra® 20	19.5	6.9
CHROMATECH Ultra® 22	21.5	6.9
CHROMATECH Ultra® 24	23.5	6.9

- Can be supplied in RAL colours 7035 (light grey), 7040 (window grey), 8003 (light brown), 8016 (dark brown), 9004 (black) and 9016 (White)

Window - Uw - calculation after EN 10077:

$$U_w = \frac{U_g \cdot A_g + U_f \cdot A_f + \Psi \cdot I}{A_g + A_f}$$

The values of the linear thermal transmission  $\Psi$  (Psi) to determine the  $U_w$  thermal transmission are valid for profiled frames and normal glazing.

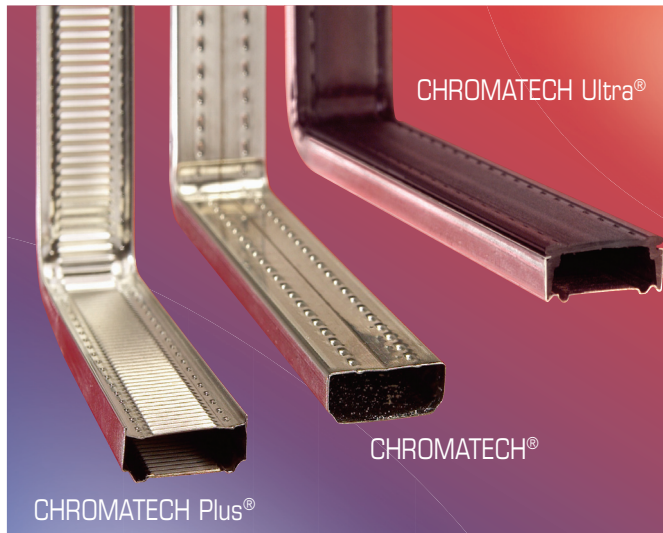
Such values have been determined with measurement at the conditions established by the IFT WA-17/1 e IFT WA-08/2 rule "Thermally improved double glazing spacer bar" – Part 1: Determination of the  $\Psi$  values for the different spacer bar in the window frames". Such rule regulates the validity and the application of the  $\Psi$  values, too.

Double glazing unit 4/16/4 - Ug = 1,1 W/m²K			Uw value for opening at	
Window	Spacer bar	Psi Value	1 shutter	2 shutter
Aluminium Uf = 1.6 W/m²K	Aluminium	0.111	1.5	1.7
	CHROMATECH Plus	0.064	1.4	1.5
PVC Uf = 1.2 W/m²K	Aluminium	0.077	1.3	1.4
	CHROMATECH Plus	0.049	1.3	1.3
Wood Uf = 1.2 W/m²K	Aluminium	0.081	1.3	1.4
	CHROMATECH Plus	0.051	1.3	1.3
Wood-Aluminium Uf = 1.4 W/m²K	Aluminium	0.092	1.4	1.6
	CHROMATECH Plus	0.056	1.3	1.4
	CHROMATECH Ultra	0.043	1.3	1.4

Double glazing unit 4/12/4/12/4 - Ug = 0,7 W/m²K			Uw value for opening at	
Window	Spacer bar	Psi Value	1 shutter	2 shutter
Aluminium Uf = 1.6 W/m²K	Aluminium	0.111	1.2	1.5
	CHROMATECH Plus	0.060	1.1	1.3
PVC Uf = 1.2 W/m²K	Aluminium	0.075	1.0	1.2
	CHROMATECH Plus	0.048	1.0	1.1
Wood Uf = 1.2 W/m²K	Aluminium	0.086	1.1	1.2
	CHROMATECH Plus	0.051	1.0	1.1
Wood-Aluminium Uf = 1.4 W/m²K	Aluminium	0.097	1.2	1.3
	CHROMATECH Plus	0.056	1.1	1.2
	CHROMATECH Ultra	0.041	1.0	1.1

The  $\Psi$  values meet the Uni EN ISO 10077-2 rule  $\Delta T_e$ : - 5 °C -  $T_i$ : +20 °C  
 Window with one shutter:  $A_w = 1.82 \text{ m}^2$   $\Delta A_f = 0.55 \text{ m}^2$   $\Delta L_g = 4.54 \text{ m}$   
 Window with two shutters:  $A_w = 1.82 \text{ m}^2$   $\Delta A_f = 0.69 \text{ m}^2$   $\Delta L_g = 6.84 \text{ m}$

- Attention: the  $\Psi$  value depends on many factors:
- position of the double glazing unit in the window frame
  - $U_f$  –  $U$  value of the window frame
  - $U_g$  –  $U$  value of the double glazing



Critical outdoor temperature in °C, at which condensation begins on the inside.

