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**cool colors PLUS**  
In top Form – in any Climate



# Cool colors and cool colors PLUS

## The technology brands of Continental Exterior Films

Windows and frame profiles have to meet many requirements. The surface of the profiles is coated with films, whereby quality and design must be convincing. The choice of the right material is crucial to minimize product failures and complaints.

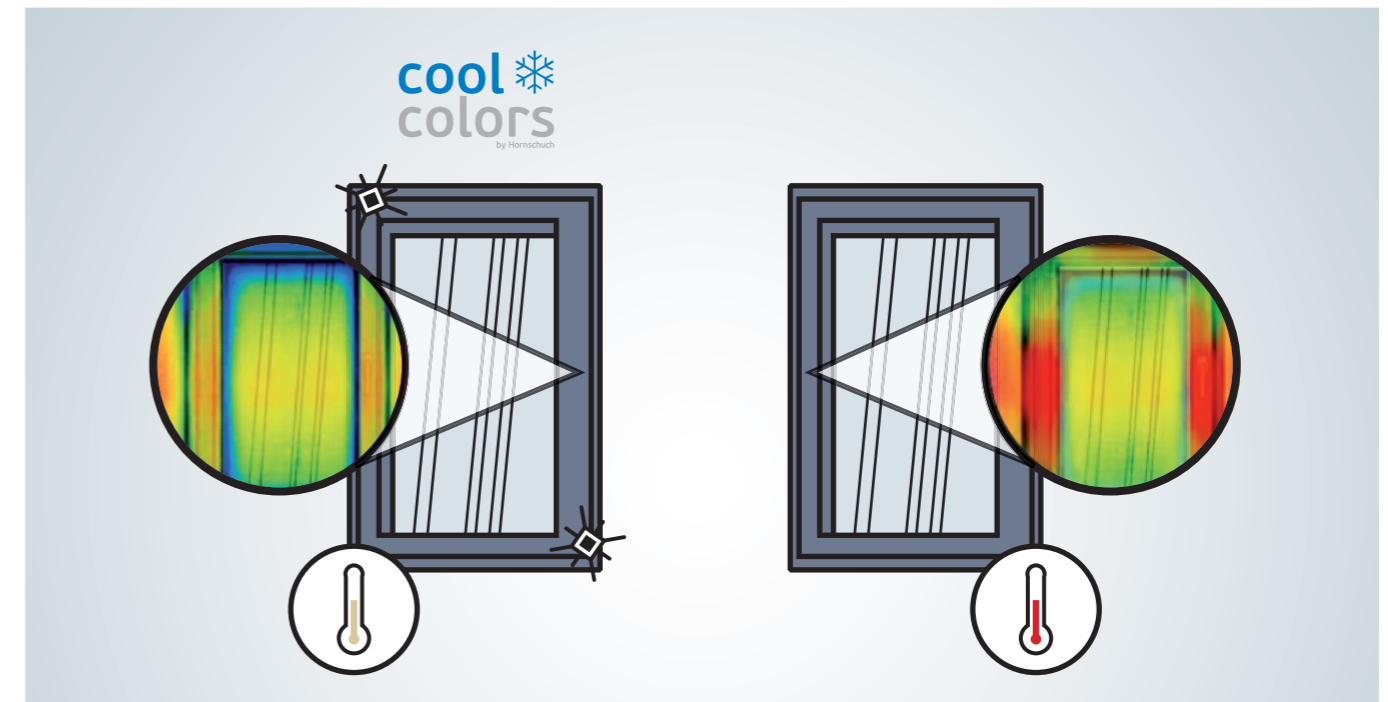
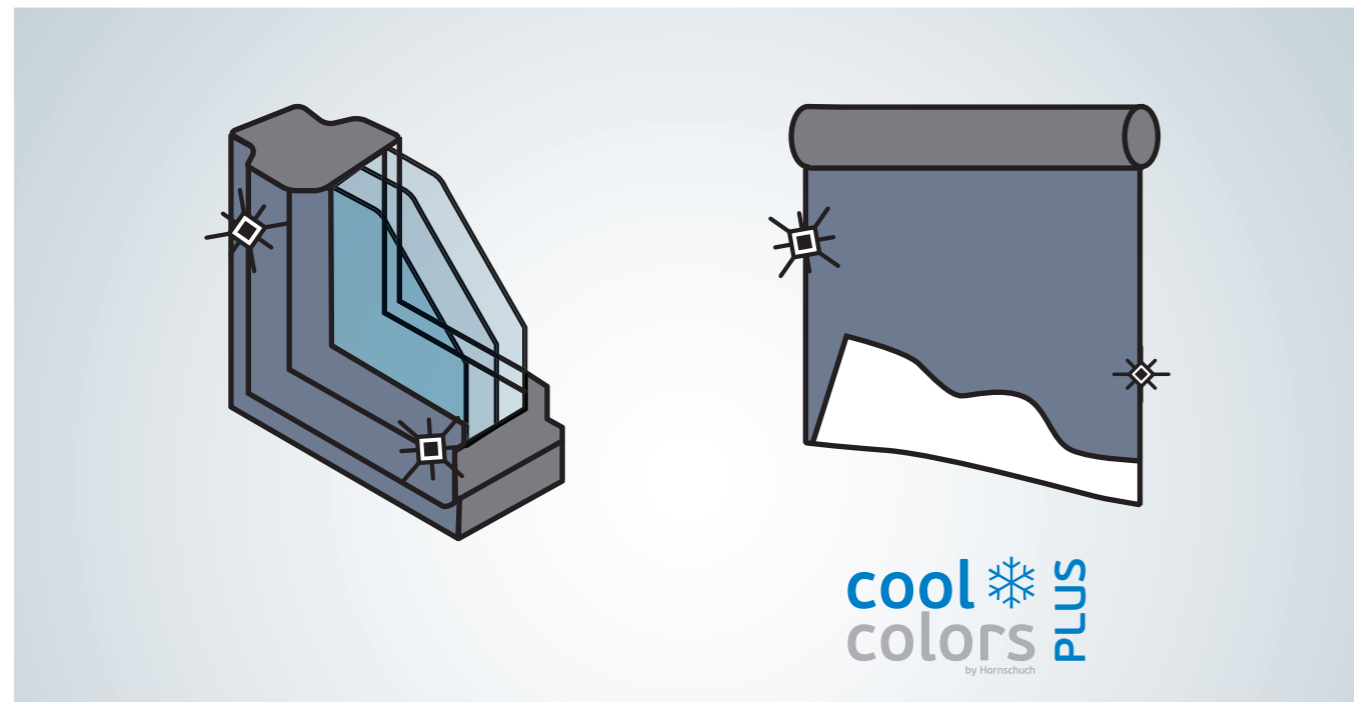
At Continental, we developed the patented cool colors and cool colors PLUS technologies for the optimization and durability of windows. Our premium films reflect significantly more solar radiation than alternative materials.

### The thermal camera clearly shows the difference:

The standard film (without cool colors) on the right is dark. It therefore absorbs a lot of thermal radiation. Cool colors on the left is light. The surface reflects more heat radiation and remains significantly cooler.

### Technically, it works like this:

The patented cool colors color pigments repel incoming heat and reflect up to 80 percent of the near-infrared range in sunlight. This means that the product composite of cool colors films on PVC profiles remains measurably cooler than comparable standard products.





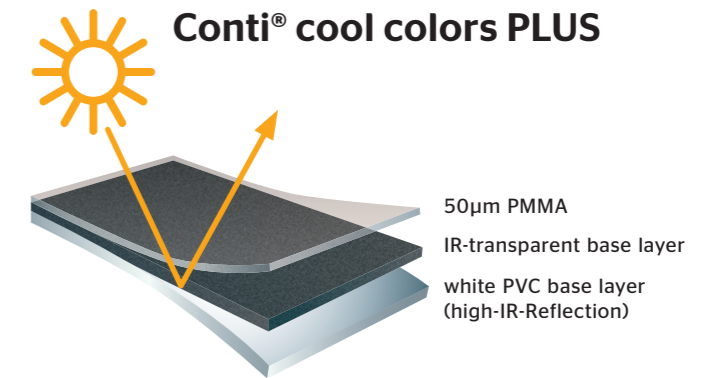
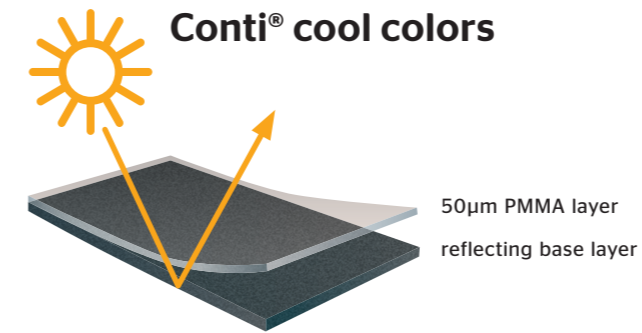
# Cool colors and cool colors PLUS

## The technology brands of Continental Exterior Films

Our cool colors explanation video can be found here:



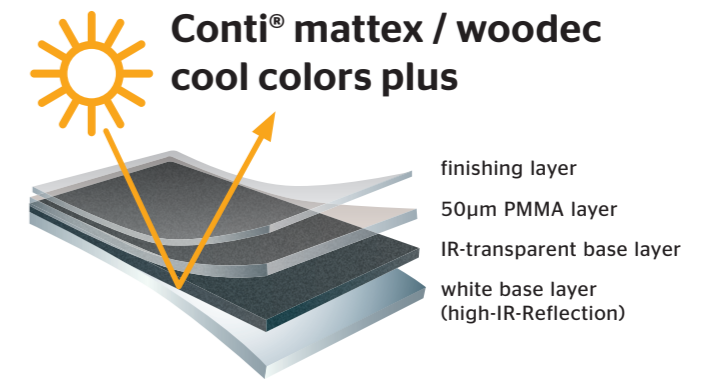
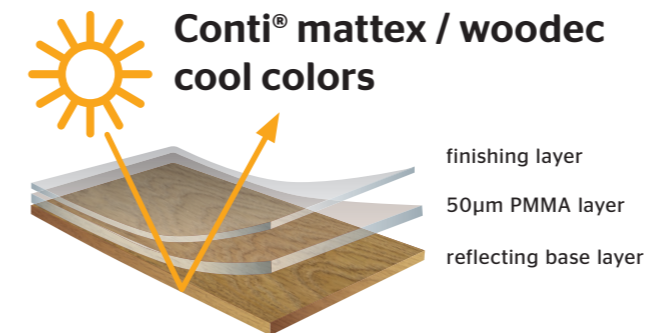
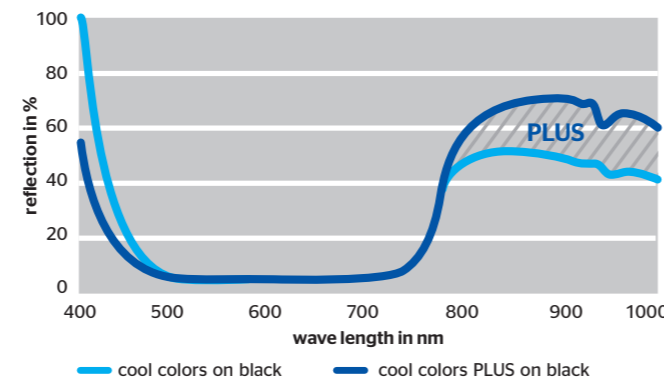
### Comparison of different product designs



### Good quality is getting even better

The further development cool colors PLUS has an additional white reflective layer on the back, which ensures even lower heat absorption. And it does so with any film color.

The cool colors Plus technology is particularly suitable for dark films on dark profiles and for use in extreme climatic conditions.





# Weathering of Continental Exterior Films

In order to test the long-term weathering resistance of an exterior film, we carry out extensive weathering tests in the laboratory and at outdoor locations in a wide range of climatic zones, even before the product is launched.

The artificially weathered samples are evaluated at intervals of 500 hours according to ISO 105-A02 with a gray scale.

The gray scale is used for the comparative evaluation of color changes and consists of contrast levels which are assigned by eye. In addition to the actual color, the scale also records properties of visual color perception (e.g. roughness or gloss) in order to obtain a holistic impression of the degree of weathering.



The TSR values also show that our cool colors and cool colors PLUS surfaces provide window profiles with excellent protection against daily solar radiation. More information about the TSR process can be found here:



## Facts in a nutshell: CC and CC+ in comparison

Structure	CC		CC+	
	no additional reflecting base layer		Additional reflecting base layer	
<b>TSR (example anthrazitgrau)</b>	TSR on white body [%]	TSR on black body [%]	TSR on white body [%]	TSR on black body [%]
	<b>38</b>	<b>25</b>	<b>40</b>	<b>36</b>
<b>HBU (example anthrazitgrau)</b>	HBU on white body [°C]	HBU on black body [°C]	HBU on white body [°C]	HBU on black body [°C]
	<b>53</b>	<b>61</b>	<b>52</b>	<b>55</b>
<b>Application area</b>	Central Europe		extreme climatic conditions, dark films on dark profiles	
<b>Hours of weathering to gray scale 4 (example anthrazitgrau)</b>	14.000h		20.000h	

## Facts in a nutshell: Advantages CC+

Product characteristics	Impacts
Lower thermal absorption	Increased protection of physical properties of windows and doors
Better long-term weathering resistance	Increased product lifespan
Better and longer color stability	Less gloss and color difference over time.