Scriba Nanotecnologie TTAG

Scriba TTAG is a completely passive time temperature indicator (it does not require batteries or other power sources), directly coupled with anticounterfeiting miniaturized code En-TAG™. Accidental exposure to heated environment with temperature higher than threshold temperature (2 °C, 8 °C, 17 °C, 26 °C), defined by thermosensible materials, is recorded by nanostuctured material..

Specifications	
Operating range	-20 °C to 91°C (-4°F to 194°F)
Threshold Temperatures	(2 °C, 8 °C, 17 °C, 26 °C)
Maximum sensing time	$\sim$ 48 hours
Shelf life	$\sim$ 12 months
Accuracy	$\pm$1.0 °C from 0 °C to 70 °C
Accuracy in time	$\pm$15%
Read Out	Optical (holographic contrast)
Weight	1 g (0.03 oz)
Activation	Pressure activation
Materials	Multilayer: PET/ALU/PP + FDA approved thermosensitive materials
Information storage	Dimension 3×3 mm Area 9 mm^2 Text Chars $\sim$ 100

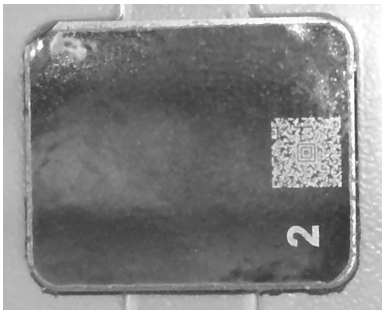

Figure 1: TTAG before activation

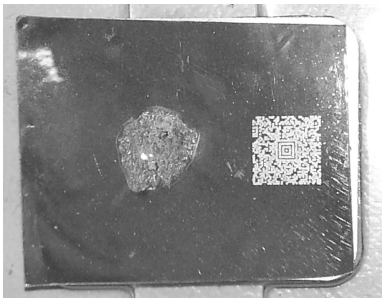

Figure 2: TTAG after activation

Figure 3: TTAG esposed to T> 8℃ for 24 hours

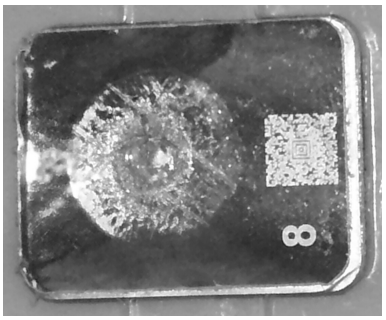

Figure 4: TTAG esposed to T> 8℃ for 48 hours