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CABLE PROTECTION
KABELSCHUTZTECHNIK

To whom it may concern

your ref.	our ref.	date
	Al	21.07.2006

Resistance of PMA Products to Weathering (Including UV and rain)

PMA AG tests it's materials and compounds for resistance to weathering according to :-
ASTM D 2565-99. (Xenon-Arc Exposure of Plastics intended for Outdoor Applications)
The procedure is designed to examine the ability of a plastic material to resist deterioration of its electrical, mechanical and optical properties caused by exposure to heat, light and water.

Weathering cycle 1	102 mins "sun", 18 mins "rain"
Black Panel temperature	63°C
Test Value	Resistance to Tensile Shock

The **Xenon-Arc exposure** lamp generates frequencies in the range 280nm to 3000nm including UVA, UVB, Visible light and Infrared, simulating natural sunlight very well.

The Xenon-Arc source is calibrated to 0.35 W/m^2 @ 340nm as specified in **ASTM 2565** to simulate the natural intensity of sunlight when integrated across the entire frequency band.

Sunlight has an intensity of **1.12 kW/m^2** across its complete frequency band.

The material under test is subjected to the weathering cycle as detailed above and the resistance to Tensile Shock used as a representative parameter for evaluation of possible deterioration to material characteristics.

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As the requested test reports contain information about our material composition they are strictly confidential. Nevertheless, we can state the following based on the weathering tests carried out at PMA in Switzerland.

- PA6 specially modified (standard) :Good UV resistance
- PA12 specially modified (standard) :Excellent UV resistance (3 to 4 times higher than PA6 standard)

For outdoor applications, where the conduits are subjected to extreme weather conditions, we usually recommend our PCS, PIS, LLPI, ESD or ESX conduits depending on the mechanical requirements of the application and the expected lifetime. Furthermore we recommend the use of our black products for outdoor applications as the material has an even better performance against UV radiation than grey, due to the material composition.

Our specially modified PA12 conduits are well established for applications in the traction industry, e.g. for roof connections of carriages, couplers etc., for over 20 years without any significant mechanical deterioration.

With compliments

PMA AG

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Application und Development Manager

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