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**AX-S™ Composite Cover**  
**Material & Product Properties**

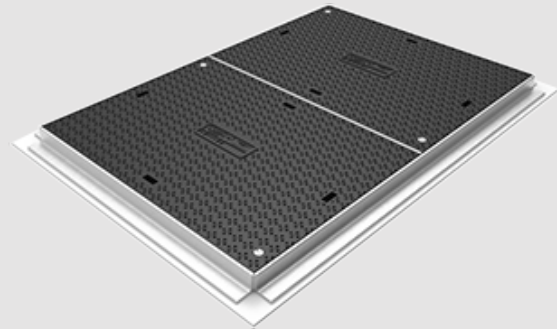


**BRIEF**

The purpose of this document is to provide product characteristics and key material properties for the black GRP AX-S™ Composite Cover product range.

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**1.0 GENERAL**

*General properties of the material used to manufacture AX-S™ Composite Cover products.*

- GRP
- UV Stabilised (Carbon Black Content)
- Black in Colour

**1.1 MECHANICAL CHARACTERISTICS**

*Key mechanical properties of the material used to manufacture AX-S™ Composite Covers, from supplier and generically known values.*

Characteristic	Test Method	Value
Tensile Strength	ISO 527	100 MPa
Elastic Modulus	ISO 527	11 GPa
Flexural Strength	ISO 14125	200 MPa
Flexural Modulus	ISO 14125	11 GPa
Impact Strength	ISO 179	80 KG/m <sup>2</sup>
Density	ISO 1183	1.81 g/cm <sup>2</sup>

**1.2 THERMAL CHARACTERISTICS**

*Relevant thermal properties of the material used to manufacture AX-S™ Composite Covers, from generically known values.*

Characteristic	Test Method	Value
Heat Distortion Temperature	EN ISO 75-2	>200°C
Coefficient of Linear Thermal Expansion	ISO 11359-2	12 x 10 <sup>-6</sup> m/m.°C
Operating Range		-40 to 110°C

### 1.3 ELECTRICAL CHARACTERISTICS

Relevant electrical properties of the GRP material used to manufacture AX-S™ Composite Covers, from generically known values.

Characteristic	Test Method	Value
Volume Resistivity	IEC 60093	1E+15 Ohm/cm
Surface Resistivity	IEC 60093	>1,00E+12 Ohm

### 1.4 FIRE BEHAVIOUR

Fire behavioural properties of the material used to manufacture AX-S™ Composite Covers.

Characteristic	Test Method	Value
Flammability fire test	UL 94	HB
Limited Oxygen Index	EN ISO 4589-2	23%
Smoke test	NF F 16101&16102	Class F1 Classification
Flame Resistance (Blow Torch)	EN60695-11-20	Pass
Hot Brake Shoe (650°C)	NF P 92-507	Pass

### 1.5 OTHER PROPERTIES

Generic properties of AX-S™ Composite Covers.

Characteristic	Test Method	Value
Water Resistance	ISO 62	< 0.5%
Skid Resistance	BS EN 13036-4:2011	78 PTV (DRY) 58 PTV (WET)

### 1.6 UV STABILITY

Independent UV stability test conducted by third party, on material used to manufacture AX-S™ Composite Covers.

As moulded GRP sections were exposed to accelerated UV Exposure as per ISO 4892-3:2006 (Method A). The test consisted of a repetitive cycle of 4 hours of UV light (UVB-313 lamp) at 60°C followed by 4 hours condensation (UV light off) at 60°C for a total of 1000 hours. Flexural strength and Modulus was determined before and after exposure as per ISO 14125.

Specimen	Average Flexural Strength (PSI)	Average Change in Flexural Strength (%)
Unexposed Specimen	209	
Exposed Specimen	191	9% decrease

## 2.0 PRODUCT TESTS

### 2.1 VERTICAL LOAD TEST

Test	Test Method	Value
Vertical Compression Load	EN124	Achieves Class C250

Note: Cubis Systems supplies Composite covers with different load classes according to EN124. These are A15, B125 & C250, with C250 being the heaviest load category.

*Test Reports are available on request*