



# **INBORD<sup>®</sup> E**

### Composition

INBORD<sup>®</sup> E is a phenole/melamine laminate having a decorative tracking resistant surface and good mechanical and dielectrical properties similar to PF CP 203 according IEC 60893 and Hp 2061.6 according DIN 7735, as well as adequate arc resistance. The thickness of the melamine laminate is 0,25 mm. The temperature index is E (120°C).

### Properties

INBORD<sup>®</sup> E laminate has a high tracking resistant surface which being coloured improves the aesthetic appeal of manufactured components. The surface colour will not fade. Colour range shown on chart. The material does not corrode and in contrast to painted and varnished metal surfaces, the material is virtually impossible to damage or scratch.

INBORD<sup>®</sup> E being a duromer does not melt and is halogen free. Therefore, when fire occurs the material does not melt, expand or buckle. Where swith board cells are constructed using INBORD<sup>®</sup> E, they pass the arc resistance test according to PEHLA guidelines number 2, edition 1974.

### Application

INBORD<sup>®</sup> E serves as insulating construction material for components in electrical equipment such as cell and pole partitions for medium and high voltage switch-gear cabinets up to 36 kV nominal voltage. It is also used for cover plates for switch-gear cabinets, switching apparatus in telephone installations, ships, industrial plants and power stations. Also for base plates of cable junction boxes, panels in household consumer units and fuse boxes as well as for control panels in a wide range of electrical appliances.

## Tooling

INBORD<sup>®</sup> E can be machined in a simple and effective manner with the same type of tools and machinery as used in the wood working industry.

Colour selection (Other colours upon request.)

Design	Uni dark	Uni red	Uni light	Uni white	Uni	Uni	Uni navy blue	Uni birch
	green		grey		sahara	orange		grey
Number	59	67	76	85	644	682	701	741

All information given here is based on currently available facts and on the results of experiments performed with all due care in our laboratories. It does not in any way reduce the responsibility of the user for carrying out further tests in order to ensure successful processing and use in specific applications. ISOVOLTA AG A-2355 Wiener Neudorf Tel: +43/5/9595-9407 Fax: +43/5/9595-9403 rigid-laminates@isovolta.com www.isovolta.com & *Censtantia* INDUSTRIES Company



**Rigid Laminates** 

### **Technical Data**

Properties	Testmethod	Unit	Value
Density	ISO 1183 / A	g/cm³	approx. 1.4
Flexural strength	ISO 178	MPa	130
Flexural modulus of elasticity	ISO 178	MPa	12000
Compressive strength perpendicular to laminations	ISO 604	MPa	300
Tensile strength	ISO 527	MPa	100
Insulation resistance after immersion in water	IEC 167	Ohm	> 10 <sup>9</sup>
Electric strength at 23°C in oil perpendicular to laminations (thickness 3,0 mm)	IEC 243	kV/mm	10
Breakdown voltage at 23°C in oil parallel to laminations	IEC 243	kV	30
Dissipation factor at 50 Hz measured on core material with 1 kV/mm	IEC 250	-	0.08
Permittivity at 50 Hz*)	IEC 250	-	approx. 5
Comparative tracking index	IEC 112	-	CTI 600
Thermal endurance	IEC 216	T.I.	120
Water absorption (thickness 10 mm)	ISO 62 / 1	mg	< 200
Impact strength parallel to laminations an15	DIN 53453	kJ/m²	15
Dimensional stability	DIN 53462	°C	> 190
Fire rating of building materials, furnace test thickness of test specimen 3 - 6 mm	DIN 4102, T1	-	B1
Impulse voltage test 3 mm, (pos. + neg. polarity)	IEC 60/2	kV	160
Arc resistance	DIN 53484 ASTM D-495		L1 120

\*) measured on core material with field strength of 1kV/mm material thickness

Availability

Thickness:	2 - 30 mm (for 2800 x 1300 mm)
	2 - 60 mm (for 2170 x 1070 mm), tolerance acc. to IEC 60893 (as PF CP 201)
Sheet size:	2800 x 1300 mm (mat surface), tolerance: +30 / -0
	2170 x 1070 mm (shiny surface, tolerance: +10 / -30

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