

# Laminates

## CDM ESD 68910N

- **New generation material with higher performances in temperature at 300-350°C**
- **Excellent flux and chemical resistance**
- **Very good machinability especially on thin wall machining down to 0,5-0,7mm**
- **Excellent dimensional stability with very good mechanical characteristics**

### Description

CDM ESD 68910N is a composite material based on glass mat reinforcement in combination with dissipative, high temperature and high corrosion resistant resin system. CDM ESD 68910N is a new generation material taking into account the necessity of thin walls machining.

### General description

Electrostatic discharge damage electronic components and circuits every day. To use CDM will allow charges to move slowly out of the circuit and will ensure the quality of your production. CDM ESD product have guaranteed dissipative characteristics. The CDM range of products exhibits higher mechanical and resistance properties as standard composite materials.

The random glass mat substrate present in the CDM ESD 68910N minimizes delamination problems during machining or pallet use.

The relative low thermal conductivity in the CDM materials allows quick pallet turnaround eliminating most of the time both the necessity to provide a cooling station and the process heat sink effect experienced in the metallic pallets. CDM materials can substitute metallic solder frames with great advantages.

Flux resistance is depending on composition and pH level. CDM has been developed to have a better withstand towards chemicals. To preserve the stability of CDM material, a regular cleaning can still be made. Due to the high fiberglass content, machining is recommended with carbide or diamond toolings. Precise machining with very accurate tolerances can be achieved by experts in the conception and machining of pallets.

### Colour

Black

### Application

Full process solder wave, SMT and selective soldering process

Components insertion

Silk screen printing of solder paste in SMT

SMT placement

Reflow soldering

Components protection

Testing of PCBs

### Availability

Standard sheet size: 2350 ±10mm x 1335 ±10mm

Standard thicknesses available: 5mm, 6mm, 8mm, 10mm.

Surface quality: sanded on both sides.

Tolerance on nominal thickness: from 5mm to 10mm -> ±0,10mm

Flatness (panel size 300x300mm): 0,2mm

### Technical Recommendations

When in contact with aggressive chemicals, cleaning of pallets on a regular basis is recommended in order to maximize the effective life span of the CDM pallets.

Storage: on flat and plane pallet in sane and dry warehouse. Avoid contact of CDM material to atmospheric influences such as UV, rain, high humidity rates.

PVC packaging around the sheets and panels is preferable in case of humidity environment.

### RoHS Directive

Hazardous products listed in the EU-directive 2011/65/UE (ROHS-directive), annex II, are not used as ingredients in this material.

	Unit	Value	Test Norm
<b>Physical properties</b>			
Density	g/cm <sup>3</sup>	1.9 ± 0.1	ISO 1183 (Method A)
Water absorption (24h 23°C)	%	<0.15	ISO 62 (Method 1)
Linear coefficient of thermal expansion, parallel	K <sup>-1</sup>	10.10 <sup>E-6</sup>	TMA
<b>Electrical properties</b>			
Surface resistance (R <sub>s</sub> )	Ω	1x10 <sup>4</sup> ≤ R <sub>s</sub> < 1x10 <sup>7</sup>	IEC 61340-2-3 (*)
Volume resistance (R <sub>v</sub> )	Ω	1x10 <sup>4</sup> ≤ R <sub>v</sub> < 1x10 <sup>8</sup>	IEC 61340-2-3 (**)
<b>Mechanical Properties</b>			
Flexural strength at 23°C, flatwise	MPa	380	ISO 178
Flexural strength at 150°C, flatwise	MPa	250	ISO 178
Flexural strength at 200°C, flatwise	MPa	120	ISO 178
Modulus of elasticity in flexure at 23°C, flatwise	MPa	18000	ISO 178
Modulus of elasticity in flexure at 150°C, flatwise	MPa	13000	ISO 178
Modulus of elasticity in flexure at 200°C, flatwise	MPa	8000	ISO 178

(\*) values also granted for ASTM D257 and STM 11.11

(\*\*) values also granted for ASTM D257 and STM 11.12

The product properties set forth in this data sheet are based on the results of testing of typical material produced by the affiliated companies of Von Roll Holding Ltd. (underneath referred as Von Roll). Some variation in product properties is typical. Comments or suggestions relating to any subject other than product properties are offered only to call the end-user's or other person's attention to considerations which may be relevant in the independent determination of the use and/or manner of use of product. Von Roll does not claim or warrant that the use of its product will have the results described in this data sheet or that the information provided is complete, accurate or useful. The user should test the product to determine its properties and its suitability for the intended use. Von Roll expressly disclaims any liability for any damage, harm, injury, cost or expense to any person resulting directly or indirectly from that person's reliance on any information contained in this data sheet. Nothing contained in this data sheet constitutes representation or warranty as to any matter whatsoever. Von Roll makes no warranties whatsoever in this data sheet, expressed or implied, including any implied warranty or fitness for a particular use or purpose. Von Roll shall in no event be liable for incidental, exemplary, punitive or consequential damages.