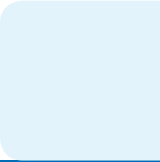
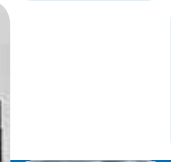




# RÖCHLING

## Durostone® – PCB Solder Pallet Materials

High performance composite materials  
specifically designed for the  
PCB assembly process



08/2017



Durostone®

Fibre reinforced plastics

# Durostone® PCB Solder Pallet Materials



Durostone® materials have been developed for all procedures within the PCB assembly process. There are three main grades which are suitable for use in the SMT reflow and wave soldering processes, **Durostone® CHP760, CAS761** and **CAG762**. These materials offer the following features:

- Excellent mechanical properties at elevated temperatures including the lead-free process.
- Low thermal conductivity.
- Excellent machining properties enabling the manufacture of complex design solder pallets.
- Good resistance to chemicals used in modern fluxes.



**CHP760**



**CAS761**



**CAG762**



# Durostone® Harsh environments

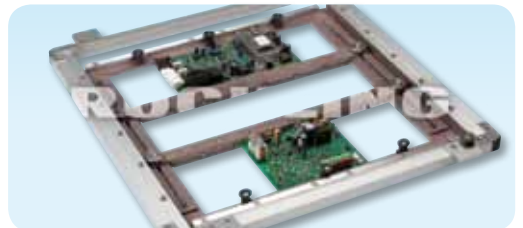
A combination of flux, temperature and process cycles can result in the degradation of the standard Durostone® grades of material.

The solution is **Durostone® CFR767** which has been specifically formulated for use with aggressive fluxes and high process temperatures.

The resin used to produce Durostone® CFR767 can withstand temperatures up to 300 °C. The decision to use Durostone® CFR767 over one of the standard grades is made when the solder bath temperature exceeds 265 °C and the bottom side PCB pre-heat exceeds 140 °C.

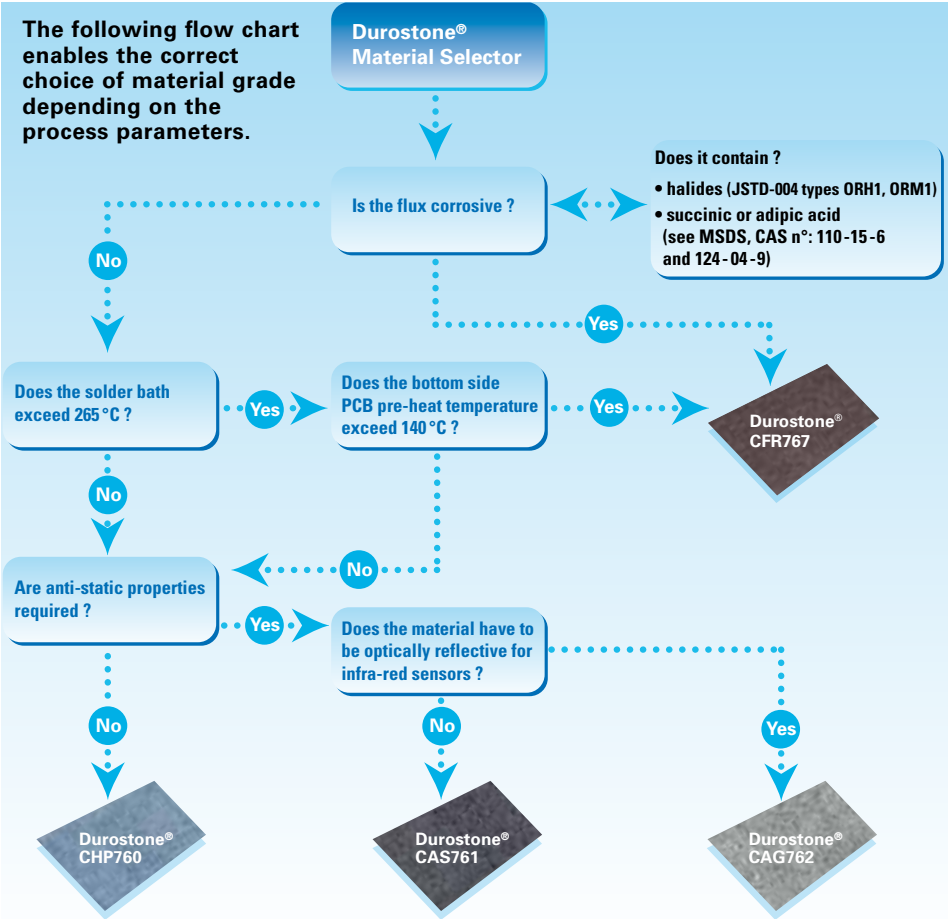
Durostone® CFR767 has excellent flux resistance. When fluxes containing halides or dicarboxylic acids are used in high volume production the lifespan of the standard grades of material can be reduced so Durostone® CFR767 is an ideal solution.

## CFR767



# Durostone® Material Selector

The following flow chart enables the correct choice of material grade depending on the process parameters.



Technical Data		CHP760	CAS761	CAG762	CFR767
Grade		Standard	Anti-Static	Anti-Static Optical	Flux Resistant
Colour		Blue	Black	Grey	Brown
Density (g/cm <sup>3</sup> )		1.85	1.85	1.85	1.80
Flexural Strength 3 point support ⊥ (MPa)	@ 23 °C	360	360	360	380
	@ 150 °C	180	180	180	260
	@ 185 °C	–	–	–	150
Modulus of Elasticity (MPa)	@ 23 °C	18,000	18,000	18,000	18,000
	@ 150 °C	9,000	9,000	9,000	14,000
	@ 185 °C	–	–	–	10,000
Water Absorption (%)		< 0.20	< 0.20	< 0.20	< 0.20
Coefficient of Linear Expansion (10 <sup>-6</sup> /K) between 30 °C and 200 °C		13	11	11	11
Thermal Conductivity (W/m <sup>2</sup> K)		0.25	0.25	0.25	0.23
Maximum Operating Temperature (°C) 10 – 20 seconds		300	300	300	380
Standard Operating Temperature (°C)		260	260	260	300
Surface Resistivity (ohms)		–	10 <sup>5</sup> - 10 <sup>9</sup>	10 <sup>5</sup> - 10 <sup>9</sup>	10 <sup>5</sup> - 10 <sup>9</sup>
Chemical Resistance		Good	Good	Good	Excellent
Sheet Size (mm)		2440 x 1220			
Thickness' available (mm)		3, 4, 5, 6, 8, 10, 12			
Thickness Tolerance	3 mm	-0 / +0.10			
Thickness Tolerance	4 – 12 mm	-0 / +0.20			
Flatness Tolerance (for a panel size of 300 x 300 mm)		0.20			
Parallelism		0.10			

- All the values are average values.
- Material is considered as not electrostatic dissipative (ESD) if more than 5 measurements/m<sup>2</sup> are insulative (10<sup>12</sup> Ω). According to JEDEC standard JESD625B, a static dissipative material is a material having a surface resistance between 10<sup>4</sup> and 10<sup>11</sup> Ω.
- Cosmetic defects are not considered as non-conformities.  
Due to the nature of glass fiber composite, the colour repartition is not guaranteed.



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