

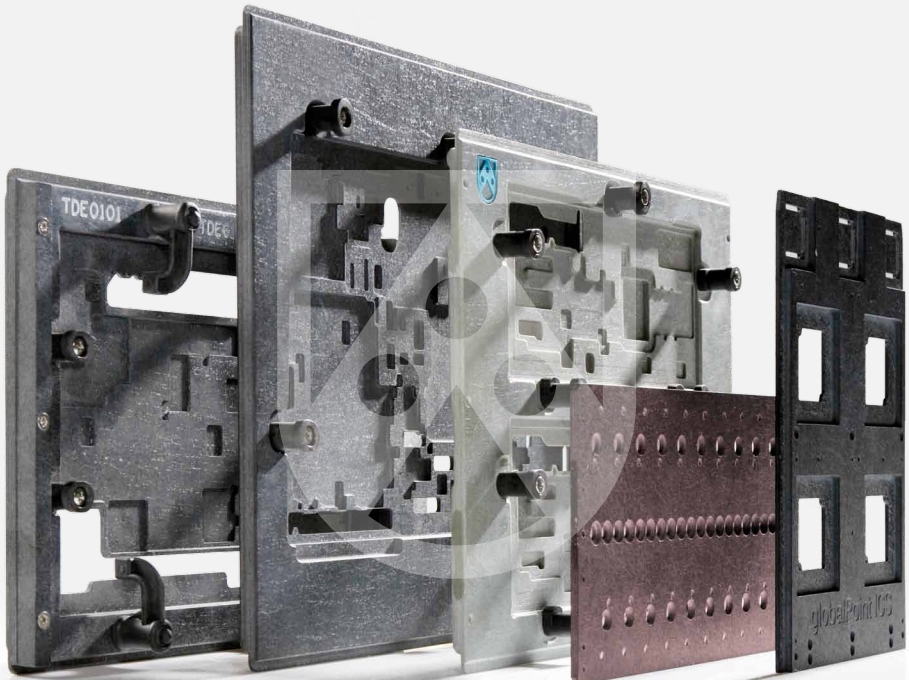
Durostone®

PCB Solder Pallet Materials

High performance composite materials specifically designed for the PCB assembly process



Electronics

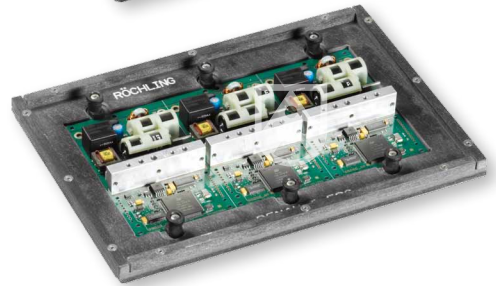
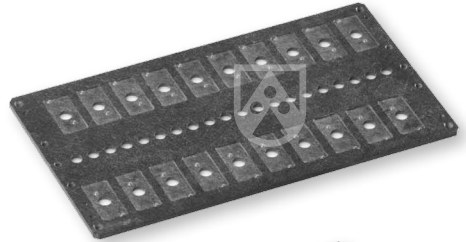


PCB Solder Pallet Materials



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.



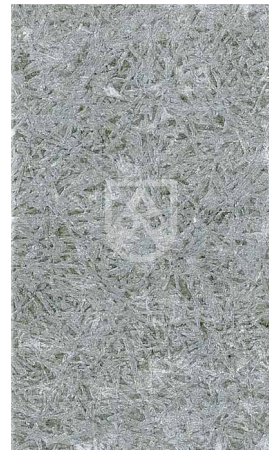
CHP760



CAS761



CAG762



Harsh environments

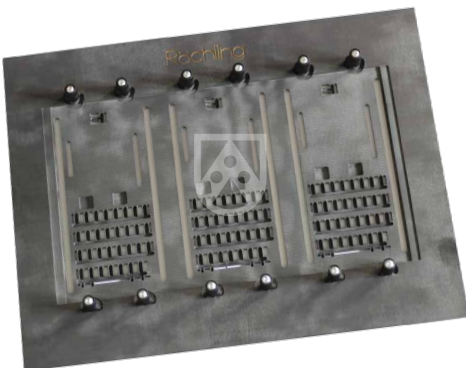
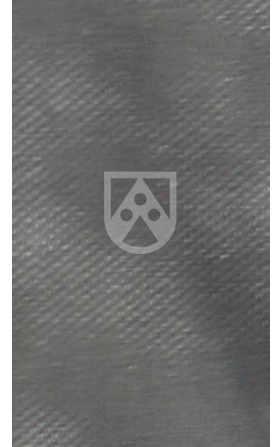
Durostone® WGR781 is a woven glass laminate which has been specially formulated to withstand extreme temperatures and aggressive fluxes.

Fluxes containing halides or halogen activators can reduce a material's lifespan, but Durostone® WGR781 can run many thousands of cycles without any adverse effect. The woven glass reinforcement ensures that the flux does not penetrate the solder pallet surface and expose fibres.

The resin used to produce Durostone® WGR781 can operate at a continuous temperature of 280°C without degradation. The material also displays excellent mechanical properties and provides the necessary dimensional stability at elevated temperatures in the wave soldering process.

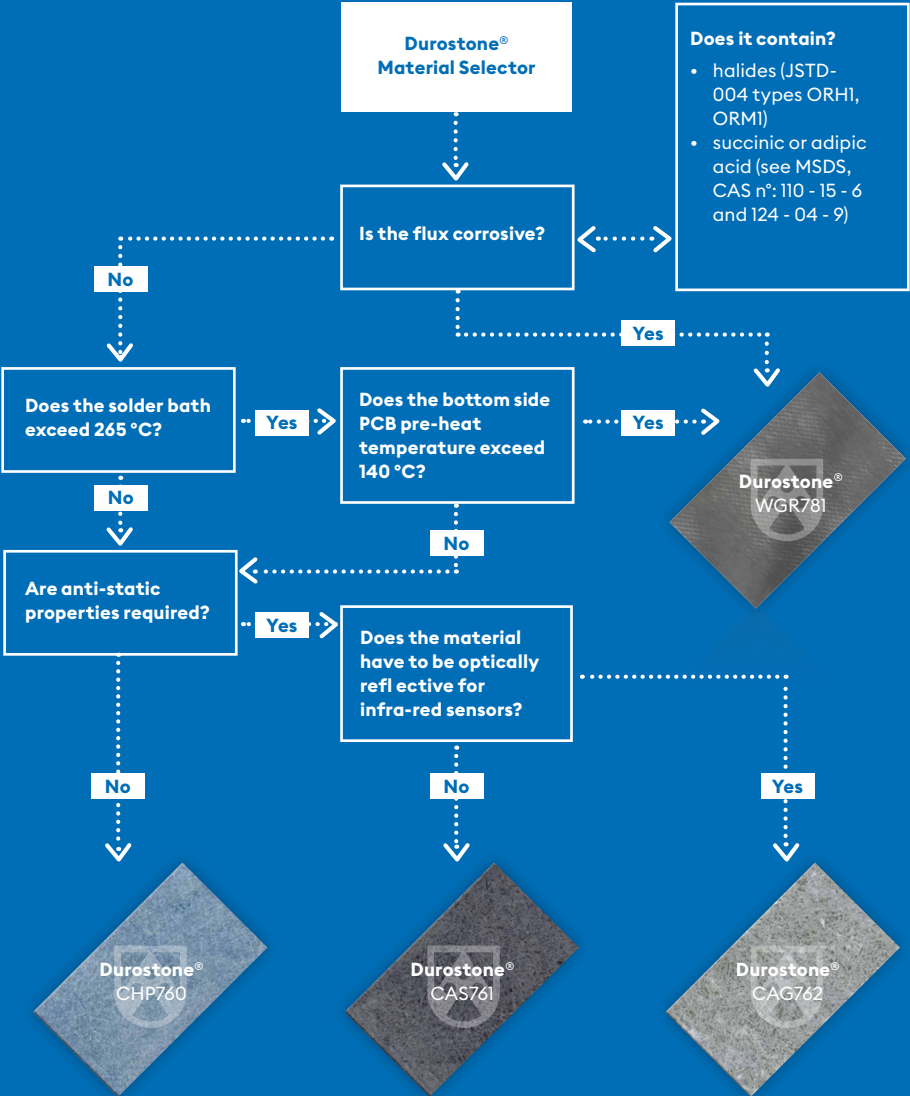
Durostone® WGR781 has excellent machining properties, with walls of just 0.50 mm thick possible.

WGR781



Material Selector

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



Technical Data

		CHP760	CAS761	CAG762	WGR781
Grade		Standard	Anti-Static	Anti-Static Optical	Flux Resistant
Colour		Blue	Black	Grey	Black
Density (g/cm ³)		1.85	1.85	1.85	1.85
Flexural Strength 3 point support (MPa)	@ 23 °C	360	360	360	400
	@ 150 °C	180	180	180	300
	@ 185 °C	-	-	-	-
	@ 23 °C	18,000	18,000	18,000	26,000
Modulus of Elasticity (MPa)	@ 150 °C	9,000	9,000	9,000	24,000
	@ 185 °C	-	-	-	-
Water Absorption (%)		< 0.20	< 0.20	< 0.20	< 0.10
Coefficient of Linear Expansion (10 ⁻⁶ /K) between 30 °C and 200 °C		13	11	11	13
Thermal Conductivity (W/m ² K)		0.25	0.25	0.25	0.30
Maximum Operating Temperature (°C) 10 - 20 seconds		300	300	300	320
Standard Operating Temperature (°C)		260	260	260	280
Surface Resistivity (ohms)		-	10 ⁵ - 10 ⁹	10 ⁵ - 10 ⁹	10 ⁵ - 10 ⁹
Chemical Resistance		Good	Good	Good	Excellent
Sheet Size (mm)		2440 x 1220	2440 x 1220	2440 x 1220	1500 x 1220
Thickness' available (mm)		3, 4, 5, 6, 8, 10, 12	3, 4, 5, 6, 8, 10, 12	3, 4, 5, 6, 8, 10, 12	5, 6, 8, 10
Thickness Tolerance	3 mm	-0 / +0.10	-0 / +0.10	-0 / +0.10	-
	4 - 12 mm	-0 / +0.20	-0 / +0.20	-0 / +0.20	-0 / +0.20
Flatness Tolerance (for a panel size of 300 x 300 mm)		0.20	0.20	0.20	0.20
Parallelism (mm)		0.10	0.10	0.10	0.10

- All the values are average values.
- Material is considered as not electrostatic dissipative (ESD) if more than 5 measurements / m² are insulative (10¹² Ω). According to JEDEC standard JESD625B, a static dissipative material is a material having a surface resistance between 10⁴ and 10¹¹ Ω.
- Cosmetic defects are not considered as non-conformities. Due to the nature of glass fiber composite, the colour repartition is not guaranteed.

EUROPE

GERMANY

Röchling Lützen SE & Co. KG

Planckstr. 3
06686 Lützen
T +49 34 444 308-200
F +49 34 444 308-100
kontakt@roebling-luetzen.de
www.roechling-industrial.com/luetzen

FRANCE

Röchling Permali Composites S.A.S.

8, Rue André Fruchard
B.P.12, Maxéville
54527 LAXOU Cedex
T +33 383 34 24 24
F +33 383 32 23 18
info@roebling-permali.fr
www.roechling-industrial.com/fr

GREAT BRITAIN

Röchling Engineering Plastics (UK) Ltd.

Waterwells Drive | Quedgeley
Gloucester GL2 2AA
T +44 1452 72-7900
F +44 1452 72-8056
sales@roebling-plastics.co.uk
www.roechling-industrial.com/uk/
gloucester

ITALY

Röchling Machined Plastics

Italia s.r.l
Via Morena 66 | 28024 Gozzano
T +39 0322 95421
F +39 039 93335
compositi@roebling.it
www.roechling-industrial.com/it

SPAIN

Röchling Plásticos Técnicos S.A.U.

Ctra. Villena, s/n. - Apartado 34
46880 Bocairent
T +34 962 350 165
F +34 962 351 025
comercial@roebling-plastics.es
www.roechling-industrial.com/es

NORTH AMERICA

USA

Röchling Machined Plastics

161 Westec Drive
15666 Mount Pleasant PA
T +1 724 696-5200
F +1 724 696-5300
rmp@roebling.biz
www.roechling-industrial.com/us

ASIA

CHINA

Röchling International (Shanghai) Co., Ltd.

No. 448 Chang Yang Street
Suzhou Industrial Park
215024 Suzhou | P.R. China
T +86 512 6265 2899
F +86 512 6265 2699
ris@roebling-plastics.com.cn
www.roechling-industrial.com/cn

INDIA

Röchling Engineering Plastics (India) Pvt. Ltd.

701, A Wing, Leo Building
24th Road, Khar West | 400 052 Mumbai
T +91 22 4217-8787
F +91 22 4217-8700
durostone@roebling-india.com
www.roechling-industrial.com/india

SINGAPORE

Röchling Engineering Plastics Pte. Ltd.

No. 14 Tuas Avenue 8
Singapore 639229
T +65 6 863 18 77
F +65 6 863 17 66
rep@roebling.com.sg
www.roechling-industrial.com/sg/
singapore

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