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TECHNICAL DATA SHEET

Product: PCB-4
Version: 2.2
Issued: 15/04/2024

CARDEL™ LAMINATION PLATES – PCB-4

Cardel™ PCB-4 plates are high quality lamination plates used in PCB manufacturing as separator plates.

The plates are available in a range of surface finishes and can be supplied as standard or with additional surface coatings that enable our customers to gain technical performance and lifetime benefits in their production operations either from lifetime extension or through reduction of contaminants on the plates after lamination.

Cardel offers a re-surfacing and / or re-coating service for all plates we produce in order to extend plates lifetime, reduce the cost of replacement and also reduce the environmental impact caused by replacement.

All plates are supplied with deburred edges and rounded corners to minimise any risk of operator handling injuries.

Properties

Material	hardened and tempered stainless steel (1.4021 / AISI 420)
Hardness	48 – 52 HRC
Heat conductivity	30 W/m·K
Thermal expansion (CTE)	$11 \times 10^{-6} \text{ 1/K}$ (20°C-200°C)
Thickness	1 mm, 1.5 mm (+/- 0.1mm). Other thicknesses available on request.
Size tolerance	+/- 0.5 mm
Squareness	+/- 1 mm per m
Parallelism	≤ 0.05 mm
Flatness	3 mm/m
Surface finish options:	- 400 grit - 600 grit - custom finishes available on request
Optional extras:	- holes / slots / angled corners - anti-stick coating - Diaplus coating – extra hard (>900HV) surface coating

Packaging

Plate protection	residue free self-adhesive low tack film on both sides
Shipping	high quality durable export boxes with screwed lid and front

Safety / Regulatory approvals

There are no hazards associated with the normal use of Cardel™ lamination plates, therefore our products **do not require safety data sheets**.



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Anti-Scratch Option VTT-Duro900plus

Material Description: hardened stainless steel
coated with VTT DIAplus anti scratch
VTT Double A surface Quality
Core hardness: HV 500 +/-8%
surface hardness: ≥ HV 900
coating thickness: approx. 25 µm per side
Parallelism : within 0.015 mm/plate
Flatness: ≤ 3.00 mm/m

Material Thickness: Variable + DIAPlus 25 µm per side ±0.05 mm

Material Composition :

Melting number	% C	% Si	% Mn	% P	% S
100142	0,0920	0,3800	9,1500	0,0660	0,0080
% Al	% Cr	% Cu	% Ni	% N	
0,0000	15,2200	1,6400	1,0500	0,1300	

Surface Finish: Glossy
Gloss Level: 850-950 / 20°
Surface roughness (Ra): ≤0.03 µm

Surface Effects: Free of defects, stains, scratches, dents, pinholes, dust, dirt inclusions, oil or additives.

Process Window: max. Temperature: 300 °C
max. Pressure: 800 N/mm² for max. 2 h

Storage Conditions Temperature: 20 +/- 5 °C
Humidity: 20 -70%

VTT-Duro900plus Revision 4