

PLATE TECHNOLOGY



Plate Technology

Wear parts which set standards

For decades, C.A.PICARD has been counted among the world's best manufacturers of wear parts for specialist industries. Our knowledge of materials is based on our history - since the founding of our company in 1876, we have been ideally combining experience, know-how and development. The requirements on our production have ensured our on-going development. Our highly-qualified employees use state-of-the-art machining procedures. The results speak for themselves: We produce precise and highly wear-resistant parts and equipment, which meet the highest of demands.



Experience. Know-how. Development.
The three pillars for proficiency and success.



The OEM standard is a matter of course for us.
We demand precision.

Products:

- Press tools
- Bottom/Top plates
- Separator plates
- Carrier/Top plates
- Press plates

Rework service for:

- Press plates
- Carrier plates
- Bottom/Top plates
- Separator plates

Accessories:

- Bushings
- Registration pins
- Corner clamps



**Innovation generates progress.
Technology creates quality.
For all press tools.**



Press tools and separator/press plates

Press tools and separator/press plates for the production of copper-coated laminates, multilayers and plastic cards demand care and attention. High hardness guarantees scratch-free surfaces and low wear during wet-cleaning and handling.

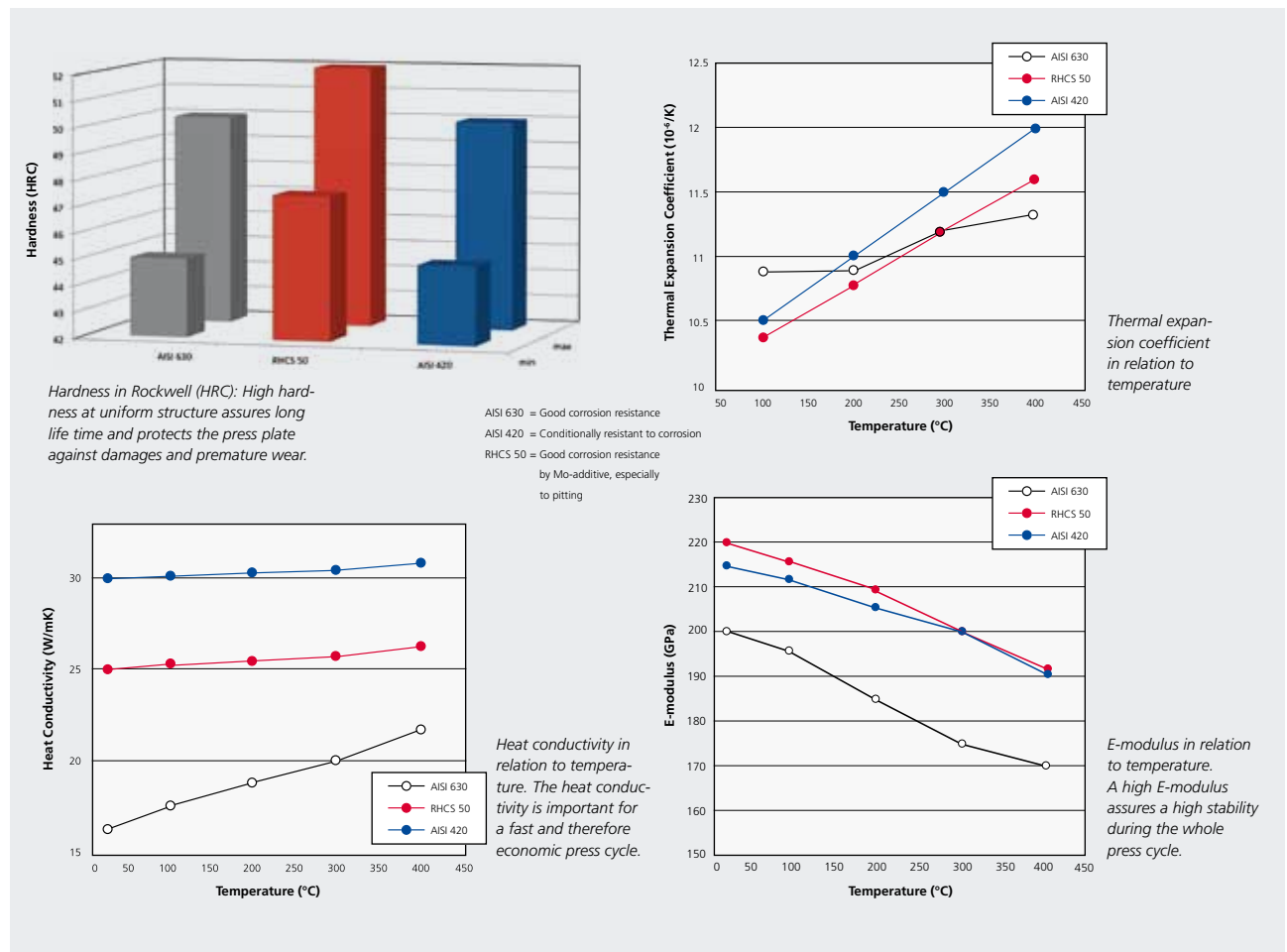
In addition to the hardness, the proper alloy components and a homogeneous structure as well as our adapted hardening process ensure the necessary resistance against corrosion. In particular, pitting causes surface corrosion, which results in an end product of inferior quality.

Furthermore, the surface must be as homogeneous as possible to facilitate the removal of resin residues from the pressing process.

A fast and economical pressing process requires good heat conductivity. Uniform heat conductivity assures high quality base material, printed circuit boards and plastic cards.

The following section provides an overview of the key characteristics of the most widely used materials for press plates and separator plates.

The separator plate material must be resistant to corrosion that may be caused by the wet-cleaning process or other influences such as high air humidity and temperature. Along with mechanical damage, pitting presents a high risk of surface defects but can be avoided by the use of suitable alloy elements.



Press and separator plates RHCS 50/RHCS 40

- are manufactured in an environmentally-friendly manner using the latest hardening and grinding processes
- can be quickly refurbished and at favourable costs, if required
- offer exceptional heat conductivity
- exhibit excellent TEC (thermal expansion coefficient)
- can withstand fluctuating thermal stresses without warping, thus guaranteeing trouble-free production
- are usable for all types of cleaning/brushing machines
- have a high level of hardness
- are resistant to corrosion



	Press plates for technical laminates	Separator plates with laser cut registration holes	Separator plates with laser cut registration holes
Steel quality:	RHCS 50 DIN X 20 CrMo 13		RHCS 40 DIN X 10 CrNi 18-8
Hardness:	50±2 HRC		45±2 HRC
Thermal expansion coefficient:	11 x 10 ⁻⁶ / °C		17 x 10 ⁻⁶ / °C
Heat conductivity:	25 W / mK		15 W / mK
Working temperature:	≤ 400 °C		≤ 280 °C
Dimensions and tolerances			
Length / Width:	± 1.0 mm		± 0.5 mm
Thickness:	± 0.1 mm		
Hole-to-hole tolerance for registration holes:	-		± 0.05 mm
Tolerances for registration holes:	-		+ 0.1 mm - 0
Flatness:	≤ 3 mm / m		
Parallelism:	≤ 0.03 – 0.05 mm		≤ 0.03 mm
Diagonal tolerance:	2.00 mm		
Surface finish:	CAP Finish 4 Ra ≤ 0.25 µm, Rz ≤ 2.40 µm CAP Finish 5 Ra ≤ 0.14 µm, Rz ≤ 1.50 µm CAP Finish 6 Ra ≤ 0.12 µm, Rz ≤ 1.20 µm		CAP Finish 5 Ra ≤ 0.14 µm, Rz ≤ 1.50 µm
Available thickness:	1.0 – 3.0 mm		1.0 – 2.0 mm

Separator plates with wire-cut registration holes on request. Variations to above-mentioned tolerances and standard specifications possible on request. Subject to changes due to technical improvements without prior notice.

Carrier plates/Bottom and top plates

- receive special heat treatment to guarantee high wear and torsional resistance
- withstand fluctuating thermal stresses in the heating and cooling press
- avoid mechanical stress during handling and transport
- the result is trouble-free production
- refurbishing and rework service is available quickly and at favourable costs



	Carrier plates / Bottom and top plates		
Steel quality:	DIN 42 CrMo4 AISI 4140 H	DIN 50 CrV 4 AISI 6150 H	1.4021 X 20 Cr 13
Hardness:	40±2 HRC	40±2 / 50±2 HRC	40±2 HRC
Thermal expansion coefficient:	12 x 10 ⁻⁶ / °C		11.5 x 10 ⁻⁶ / °C
Heat conductivity:	42 W / mK		30 W / mK
Working temperature:	≤ 400 °C	≤ 400 °C / ≤ 250 °C	≤ 300 °C
Dimensions and tolerances	Standard		Premium (for all versions)
Length / Width: For large formats 2000 mm:	± 0.5 mm + 3 – 5 / - 0 mm		
Thickness:	± 0.2 mm		
Hole-to-hole tolerance for registration holes:	± 0.02 mm		± 0.012 mm
Wire cut registration holes:	on request		
Flatness:	0.2 – 3.0 mm depending on size and thickness		
Parallelism: For large formats 2000 mm:	≤ 0.03 – 0.05 mm ≤ 0.1 mm		
Surface finish:	Grit 80 Ra ≤ 1.2 – 2.5 µm		
Available thickness:	2.0 – 15.0 mm		up to 10 mm

Variations to above-mentioned tolerances and standard specifications possible on request. Subject to changes due to technical improvements without prior notice.

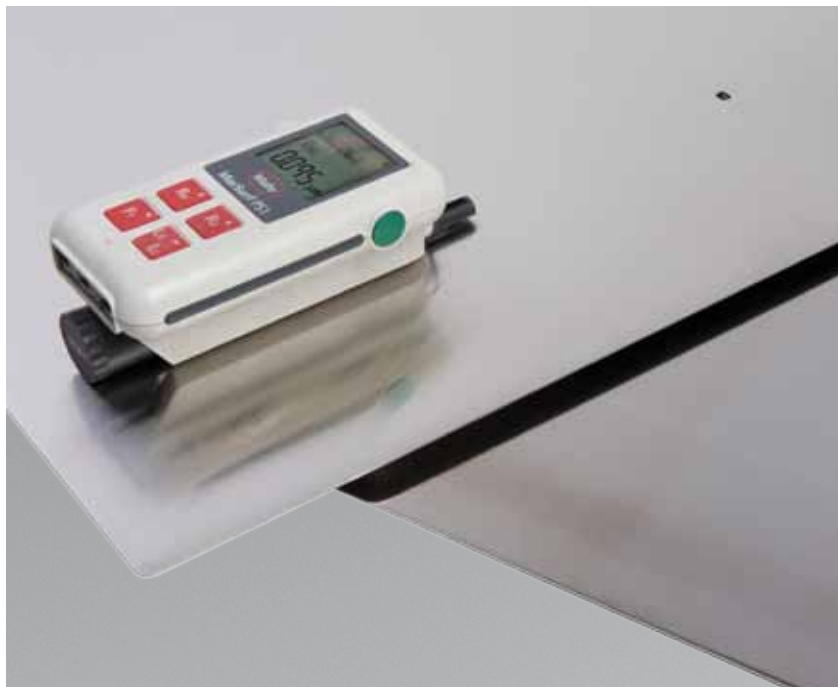
Refurbishing and rework service

Carrier plates, lamination/bottom and top plates as well as separator plates are tools that require appropriate care and attention. To ensure that you can benefit from our high quality for many years, C.A.PICARD offers service facilities in five locations worldwide.

Tools that show signs of wear after prolonged or intensive use will be quickly restored to almost new condition at favourable costs.

This service is not solely confined to C.A.PICARD press tools!

On request, we will provide additional information on the care and storage of the tools along with suitable instructions on how to exchange lamination/bottom and top plate bushings.



Bushings and registration pins

C.A.PICARD accessories complete the programme. The bushings are designed in such a way that you can also replace them yourself, if necessary, without adversely affecting their guaranteed accuracy.

Bushing inserts are available not only for the standard slotted hole, but also for other dimensions. C.A.PICARD slotted hole registration pins are provided with centring aids to make de-pinning easier and quicker.



	Standard bushing OP-37-003/B	Registration pins
Hardness:	58-59 HRC	56-58 HRC
Dimensions and tolerances		
Nominal dimensions:	Ø 6.368 x 4.77 mm	Ø 6.35 x 4.76 mm
Diameter:	+ 0.012 mm - 0 mm	+ 0 mm - 0.005 mm
Width:	+ 0.012 mm - 0 mm	+ 0 mm - 0.005 mm
Standard lengths:	9.5 mm	19, 25, 32, 35, 38, 44, 51, 57, 63 mm



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