WET PROCESSING

qCAR

**Wafers, printed circuit boards or similar components –
You need to handle such substrates during wet processing?**

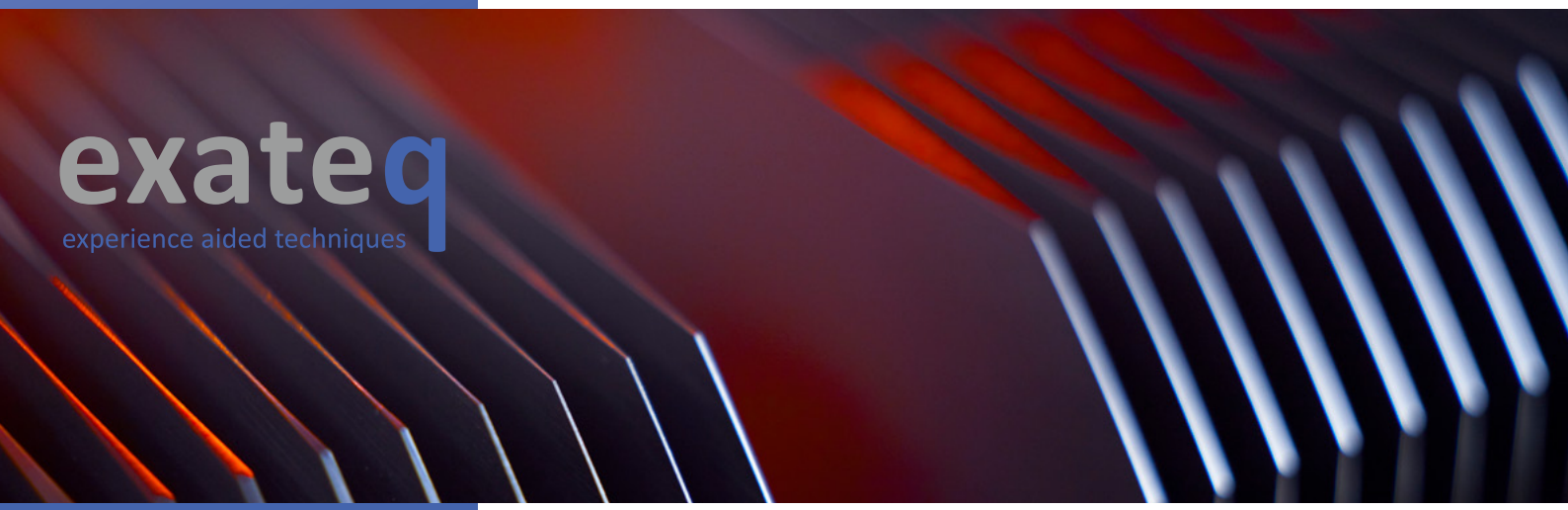
Respective devices may be called cassette, carrier or basket. Our focus are open structures holding such components which we offer predominantly for:

Semiconductor: carriers according to the customer's specification.

PV/solar wafers: standard production carrier for all wafer sizes (full size/half cut), lower capacities for pilot and lab application.

Customized carriers: variety of applications incl. customized pitches, multi-pitch, more than one substrate size, and customized capacities.

PCB: These are custom designed stainless steel structures with clamping devices.



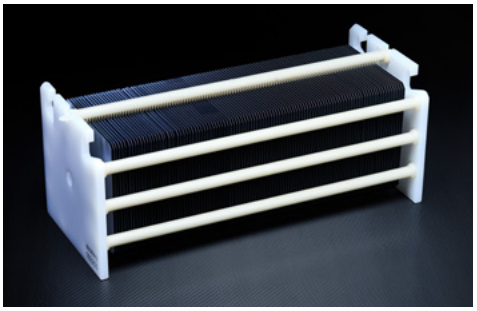
Materials

Typically manufactured of PVDF with injection moulded bars strengthened by Halar coated stainless steel inserts (inliners). Other materials (PP, PPc, ECTFE, PTFE and others) come with machined support bars.

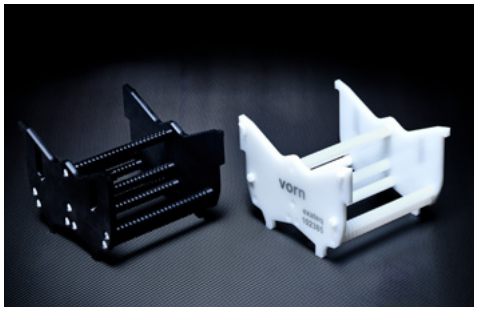
Manufacturing

All carriers are manufactured in-house. PV carriers are predominantly welded, other types may be welded or bolted together. Welded carriers for production use are always tempered.

qCar 104 M10
capacity 104 wafers, wafer size M10



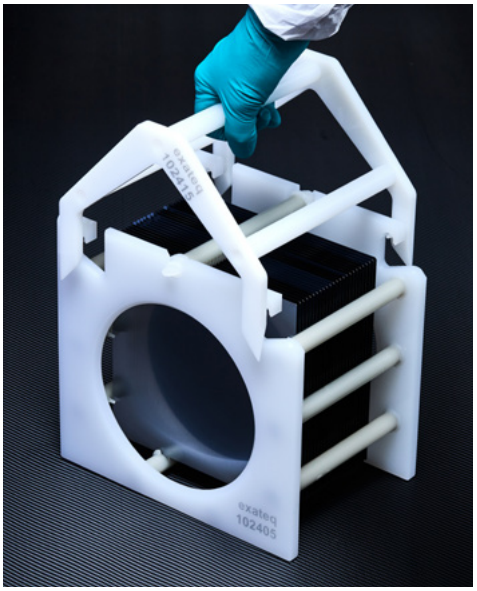
Twin carriers in conductive PP (black) and PP white for 2 rows of small wafers



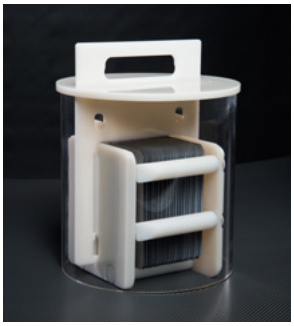
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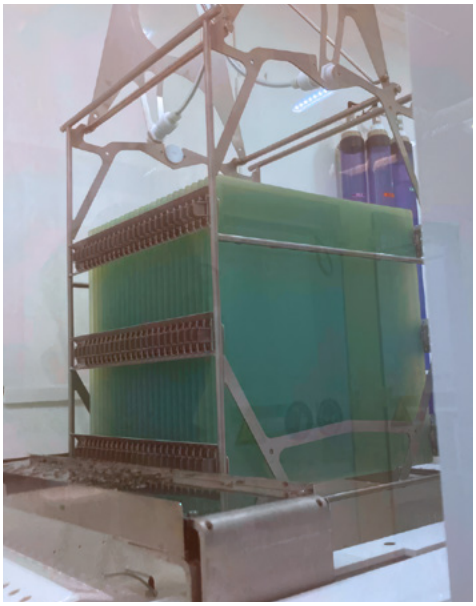
Carrier for lab applications
with gripper for manual wet benches



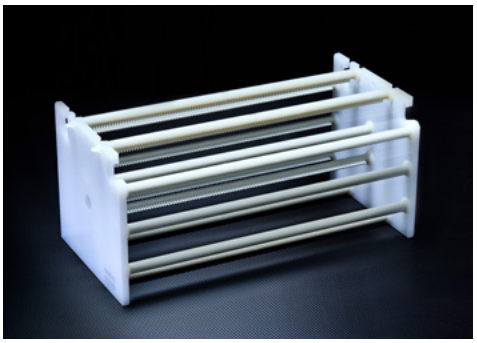
Carrier with lid and retaining function
for use in a (glass) beaker



Basket with clamps, all in stainless steel, for printed circuit boards



HG12 Carrier
for G12 half cells holding 208 wafers



Substrate sizes

Customized carriers can be offered for basically any diameter and thickness. The carrier pitch typically correlates with substrate size and thickness. A typical pitch for PV carriers is 4.76 mm, other pitches are available on request.

Substrate/wafer thickness

As Si wafers get thinner they get more flexible causing bending when a carrier is pulled out of a liquid. If they are close enough they stick together (kissing wafers) which can cause surface imperfections. Avoiding this the correlation of wafer size and thickness, and pitch must be considered.

Carrier weight

Etching processes creating gas bubbles can cause floating of the wafers and even floating of the whole carrier. This must be considered in the carrier design by integrating additional weight and using retention bars.

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