

ROTEC

KNOWING HOW



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Your valuable partner for consumables in the SMT industry

Solder Paste, Stencils & Alloys

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alpha

MacDermid Alpha is a provider of high performing materials for PCB Assembly Solutions. Their product range includes Solder Paste, Stencils, Solder Preforms, Liquid Soldering Flux, Soldering Alloys, Cored Wire and Nano Silver Sinter Technologies.

ALPHA SOLDER PASTE

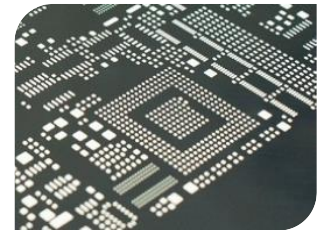
PRODUCT	LEAD-FREE	POWDER TYPE	CHARACTERISTICS
OM-353	●	T4 T5	Designed to work in a nitrogen free process. Low rate of flux spread delivers superior post reflow cosmetics. Also the recommended product for vapour phase soldering. As miniaturization increases, Alpha OM353 is the most future proof solder paste available from Alpha today.
CVP-390	●	T4 T4.5	Increased pin-testing yield and electrical reliability (SIR). Dispense grade in 10cc syringe available.
JP-500	●	T5	Specific T5 solder paste for jetting applications.
OM-550	●	T4	Next generation low melt solder paste with a peak temperature between 180° and 200°C. Mechanical reliability similar to SAC305 and enables low temp reflow of SAC -BGAs. Prevents warping and component drop in reflow.
OM-5100		T4	Universal lead-containing solder paste with long stencil-life.



ALPHA STENCILS

ITEM	CHARACTERISTICS
ALPHA CUT	Available in standard stainless steel or HR2 steel for improved stencil performance.
ALPHA NICKEL-CUT	Laser cut nickel stencils when more durability is required.
ALPHA STEP	Step-stencil technology available in both milling and chemical etching.

ALPHA FOIL TECHNOLOGY	DATA MANAGEMENT	APERTURE DESIGN
Tetra bond, Vector Guard and custom size Aluminum Frames	All common CAD/CAM file types such as: Gerber, DXF, ODB++	No reduction, customer or Alpha design rules are possible.



Test our service - quality - performance and order the first test stencils at reduced prices

ALPHA SOLDER ALLOYS

Alpha has been manufacturing soldering alloys for over 125 years and offers the best value for wave and selective soldering performance.

Alloys :

Sn63Pb37, SAC305, SAC405, SAC387, SACX0807, SACX0307 and SnCX100

Available :

3,5kg, 1kg, solid wire 2/3/4/6mm, chunks and anodes

Reclaim Service :

Alpha offers a safe and efficient reclaim service for solder and paste scrap which will help companies meet their environmental and legislative requirements.



Flux, Cored Wire & Preforms

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ALPHA LIQUID & GEL FLUXES

PRODUCT	BASE	SOLIDS	CHARACTERISTICS
EF-2100-TF	Water	4%	Rosin and VOC-free flux gives excellent soldering performance combined with good cosmetics and pin testability.
EF-6100	Alcohol	3,8%	IPC, Bellcore, and JIS compliant no-clean flux, specifically developed to deliver high reliability and excellent soldering performance for wave soldering and selective soldering.
EF-6000-TF	Alcohol	2,2%	Suitable for improved residue cosmetics.
CVP-390	Fluxgel		Zero-halogen no-clean flux gel designed for rework applications. Low residue and ability to pass JIS Copper Corrosion test. Available in 10cc syringes.



ALPHA CORED WIRE

PRODUCT	CHARACTERISTICS
ALPHA Telecore HF-850	ROLO and developed to be halogen free. It meets the highest industry standards for electro-chemical reliability and it's clear non-tacky residue does not require cleaning. Available in SAC305 and low silver with variable flux quantities from 2,2% to 3,3%.
Available diameters	0,25 - 0,40 - 0,50 - 0,80 - 1,00 mm



ALPHA SOLDER PREFORMS

ALPHA Exactalloy® solder preforms are precisely formed pieces of solder suitable for volume manufacturing with very tight tolerances. They are manufactured in a wide variety of shapes, sizes, solder alloys and flux delivery systems to meet your requirements.

Alloys :

Standard and non-standard alloys available

Size/Shape :

Disk, washer, rectangle, sleeve and special parts

Flux Type :

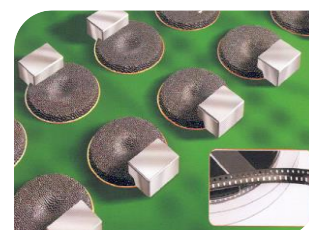
Pre-fluxed and color-coded available

Packaging :

Bulk or tape and reel



SIZE	DIMENSIONS			VOLUME			
	L	B	H				
Inch		mm		mm³	Reel	SAC305	Sn-Pb
0201S	0,44	0,28	0,28	0,034	10K	✓	
0402	1,00	0,50	0,50	0,250	5K	✓	✓
0603H	1,60	0,80	0,50	0,640	4K	✓	✓
0603	1,60	0,80	0,80	1,024	4K	✓	✓
0805	2,01	1,30	0,76	1,986	3K	✓	✓



Contact us to check the feasibility of your project.

Identification - Labels

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Brady offers a wide range of labels for general industrial applications. We support the full range of Brady labels, thermal transfer printers, scanners and software to supply our customers the most complete system identification solutions.

PCB LABELING / POLYIMIDE LABELS

PRINTER SOLUTION: HIGH-END



BRADY PRINTER i7100

Resolution	300 – 600 DPI
Max. labels / day	7000
Connections	Bluetooth, TCP/IP, USB, serial, (wifi)
Min. label size	4 x 4 mm
Max. label width	106mm

LABEL SOLUTION



KAPTON / POLYIMIDE LABELS

Min. label size	4 x 4 mm
ESD	Optional
Options	Chemical resistance Optional label feeder compatible
UL	Optional
Finishing	Gloss - mat
Temperature resistance	Max. 300 °C
Thickness	25µ -> 50µ

AUTOMATED SOLUTION



LABEL FEEDER PICK & PLACE

Type	Preprinted kapton labels on reel
Compatibility pick & place	Assembleon, Essemtec, Europlacer, Fritsch, Fuji, Heeb, Juki, Mycronic, Samsung, HANWHA, Siplace ASM, Universal, Yamaha
Min. label size	4 x 4mm

STANDARD & CUSTOM PRODUCT LABELS

PRINTER SOLUTION: ENTRY-MODEL



BRADY PRINTER BBP12

Technology	Thermal transfer
Resolution (DPI)	300
Max. labels / day	500
Connection options	TCP/IP, serial, USB
Min. label size	6 x 10mm
Max. label width	108 mm

PRINTER SOLUTION: MID-RANGE



TSC TX600

Technology	Thermal transfer
Resolution (DPI)	600
Max. labels / day	500
Connection options	Bluetooth, TCP/IP, USB, serial, (wifi)
Min. label size	3 x 19mm
Media width	19 – 112mm

LABEL SOLUTION



APPLICATIONS

Color	Full colour
Size	All sizes
Shapes	All shapes
Materials	Polyethylene, polypropylene, polyester, vinyl,...
Temperature resistance	-80°C to 180°C
Printing	Blanc/preprinted

LABELS FOR CABLE & WIRE IDENTIFICATION

PRINTER SOLUTION



LABEL SOLUTION



STANDARD LABELS



BRADY WRAPTRONIC A6500

Technology	Thermal transfer
Resolution (DPI)	300dpi
Max. labels / day	7000
Connection options	Serial, USB, TCP/IP
Min. cable Ø	1,52mm
Max. cable Ø	15,24 mm

WRAPTRONIC LABELS

Color	White/Transparent
Min. label width	12,7 mm
Max. label width	50,80 mm
Min. label height	19.05 mm
Max. label height	76.20 mm
Finishing	Mat
Temperature resistance	- 70 °C to + 100 °C
UL	Yes

CABLE / WIRE PRODUCTS

- Shrink sleeves
- Wrap-around cables
- Self laminating labels
- Carriers with insert cards
- Identification of components
- Labels for electrical & patch panels
- Flags and tags for cable & wire
- Connection terminals

SCANNERS & SOFTWARE

SCANNING SOLUTION



SOFTWARE SOLUTION



AUTOMATION



BARCODE – QR CODE SCANNERS

- 1D/2D Barcode scanners
- Wired / wireless
- Hand scanner / fixed position
- HD -technology for small codes
- Verification
- Optimization barcodes

INTUITIVE SOFTWARE

- Nicelabel® / Bartender®
- Label Automation
- Brady Workstation
- Custom Software

SOFTWARE APPLICATIONS

- Wire & Cable Label
- Product Identification
- Safety and Facility Signs and Labels
- Scanning Solution Software
- Label Print Automation Software
- Hazardous Chemical Software

Cleaning Solutions & Technology

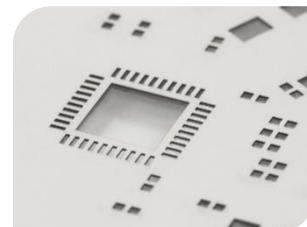


Kyzen is a global leader in the development of environmentally responsible cleaning solutions and innovations for electronics assembly, metal finishing and advanced packaging. Kyzen offers a range of cleaning agents for every part of your process.



SOLDER STENCIL CLEANING

ITEM	PRODUCT	APPLICATION
Solder paste & SMT-adhesives:	Aquanox A8820D	SUI, Ultrasonics & SIA-machines, Optional rinse
Underwiping & Squeegees:	Cybersolv C8882	Multi-purpose cleaner, IPA alternative
Manual cleaning:	IPA 70/30	Multi-purpose cleaner, available in wipes & spray bottles



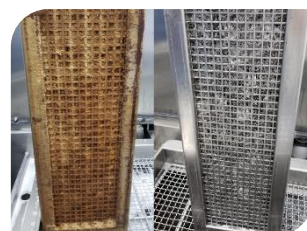
PCB CLEANING

ITEM	PRODUCT	APPLICATION
Aqueous Spray-in-air Cleaning:	Aquanox A4625B	Easy to use, excellent compatibility, superior bath life
	Aquanox A4241	Effective on tough soils while protection sensitive parts from etch or darkening
	Aquanox A4727	Eco-friendly chemistry with superior compatibility at low concentration, rinses easily
Aqueous Spray-under-immersion Cleaning:	Aquanox A4625B	Easy to use, excellent compatibility, superior bath life
	Aquanox A4241	Effective on tough soils while protection sensitive parts from etch or darkening
Aqueous Ultrasonic Cleaning:	Aquanox A4241	Effective on tough soils while protection sensitive parts from etch or darkening
	Aquanox A4651US	A low pH cleaning solution which provides brilliant solder joints and cleans exceptionally well on the latest flux formulations.
Spot Cleaning:	Cybersolv C-141R	A precision cleaner blend of organic solvents that is safe and ready to use for bench-top electronics cleaning



MAINTENANCE CLEANING

ITEM	PRODUCT	APPLICATION
Oven parts & Filters	Kyzen E5322	Ultrasonic cleaning, ALU-safe
	Kyzen M6355	SUI & SIA cleaning, ALU-safe
Solder Carriers:	Kyzen E5321	Room temperature SUI-Cleaning
	Kyzen M6355	SUI & SIA cleaning, ALU-safe



PRECISION METAL CLEANING

ITEM	PRODUCT	APPLICATION
Polar & non-polar soil removal:	Metalnox M6386	A modified alcohol for removing a wide range of oils, coolants and dust from steel, brass, aluminium,... Safe on Viton, Teflon,...
Polar soil removal:	Metalnox M6380	A modified alcohol for removing a wide range of water based soils from steel, brass, aluminium,... Safe on Viton, Teflon,...
Aqueous metal cleaner	Metalnox M6309LT	Low temp., mild alkaline, aqueous cleaner designed to remove machining oils, burned on carbon and other manufacturing soils from all types of metal.



Conformal Coating

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Coating Innovations
for Electronics

ELPEGUARD® conformal coatings are used to protect and insulate assembled PCB's so that they can fulfill higher requirements regarding reliability and service life.

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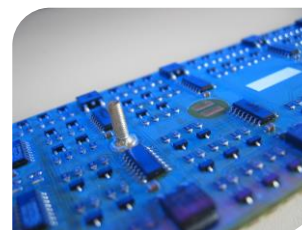
KNOWING HOW

ELPEGUARD® THIN FILM COATINGS

Solvent-containing 1-pack "ready-to use" systems with very good resistance against moisture, condensation and corrosive gasses:

- Typical dry layer thickness < 80 µm
- Suitable for coating flexible circuits
- Can be soldered through for repair
- Colored-transparent or fluorescent adjustments permits a simple check of the coating layer

PRODUCT	MATERIAL	CURING METHOD	CHARACTERISTICS
SL 1307	Acrylic	Physical curing system Room temperature or ±20min, 80°C	Good moisture and corrosive gas protection Good yellowing resistance for optical applications Available in transparent (FLZ), black & white Gel (Dam application) version available
SL 1800	Acrylic	Physical curing system Room temperature or ±20min, 80°C	Good wetting to silicon contaminated area's Good moisture and corrosive gas protection High thermal shock resistance: -60 to +125/150°C
SL 1301	Polyurethane	Physical & oxidative curing Room temperature or ±20min, 80°C + O2 reaction	Good moisture, chemical and corrosive gas protection Operating temp.: -40 to +140°C Gel (Dam application) version available
UTC 1507	Synthetic rubber	Physical curing system Room temperature or ±30min @ 80°C	Good moisture and corrosive gas protection Low permeability to water vapor High insulation @ high temp. & high moisture



ELPEGUARD® THICK FILM COATINGS

Solvent-free 1 and 2-pack "ready-to use" systems with excellent chemical resistance:

- Typical dry layer thickness > 80 µm
- Can be removed mechanically for repair purposes
- Colored-transparent or fluorescent adjustments permits a simple check of the coating layer

PRODUCT	MATERIAL	CURING METHOD	CHARACTERISTICS
DSL 1600 E	Acrylate & Polyurethane	UV-curable & Moisture crosslinking	Excellent moisture, chemical & corrosive gas protection Chemical crosslinking in shadow areas Good yellowing resistance Excellent mechanical resistance Gel (Dam application) version available
DSL 1602	Acrylate & Polyurethane	UV-LED curable & Moisture crosslinking	Excellent moisture, chemical & corrosive gas protection Chemical crosslinking in shadow areas Good yellowing resistance Excellent mechanical resistance Gel (Dam application) version available
DSL 170x	Silicone	DSL 1705: Thermal DSL 1706: RTV DSL 1707: UV & Moisture	High thermal shock resistance Stress compensation under thermal shock Self-priming
SL 9407	Polyurethane	2-pack curing system Curing at room temperature or ±40min @60°C	Highest resistance against external influences, even corrosive gases Low solvent emission (<5%) High thermal shock resistance even @1mm layer thickness



Casting Resins & Compounds

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Coating Innovations
for Electronics

ELPECAST® casting compounds protect and insulate electronics, sensor technology and lighting electronics against extreme weather conditions and aggressive media. A large variety of transparent and opaque products fulfills numerous individual requirements and customer requests.

ELPECAST® TRANSPARENT CASTING MATERIALS

PRODUCT	MATERIAL	CURING METHOD	CHARACTERISTICS
VT 3402 KK-NV	Polyurethane	2-pack curing system (1:1 mixture)	Crystal-clear and highly transparent Very good weather resistance, UV-stable Outdoor and underwater applicable Opaque available HDI-cyanoacrylate
VT 3602 KK	Silicone	2-pack curing system (1:1 mixture)	Crystal-clear and highly transparent High optical temperature resistance of +150°C Very good weather resistance, UV-stable Outdoor and ATEX applicable



ELPECAST® COLORED CASTING MATERIALS

PRODUCT	MATERIAL	CURING METHOD	CHARACTERISTICS
VU 4444/31 SB-WB	Polyurethane	2-pack curing system (3:1 mixture)	Elastic Very good weather resistance and UV-stability Excellent protection against impact & vibration Good resistance to H2O, moisture & chemicals Corresponds to UL 94 V0 HDI-cyanoacrylate
VU 4443/92 WR-NV	Polyurethane	2-pack curing system (9:2 mixture)	Highly elastic with low water absorption Good adhesion to almost all materials Operating temp.: -65 to 130°C Excellent protection against impact & vibration Good resistance to H2O, moisture & chemicals ATEX applicable (IEC 60079-0, section 26.10)
VU 4459/41 SV-HF	Polyurethane	2-pack curing system (4:1 mixture)	Easy processing Low volume shrinkage Excellent mechanical strength Meets UL94 V0 (File E99285) Halogen-free
VU 4045 NV	Epoxy	2-pack curing system (4:1 mixture)	Low heat generation while curing High mechanical strength Good resistance against H2O & aggressive media Good thermal conductivity



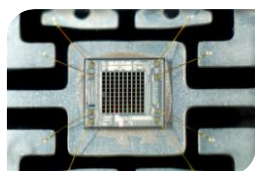
NOLATO COMPATHERM PAD

These soft, thermally conductive silicone pads can be used where heat must be conducted between a component and a heat dissipating surface, without any added stress, or to bridge a gap for increased heat dispersion.

Unit	9410	9411	942X	9421	943X	9440	945X	947X
Elastomer base	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone
Thermally Conductive filler	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic
Thickness mm	0,25-5,00	0,50-5,00	0,25-5,00	0,50-5,00	0,25-5,00	0,75-5,00	0,30-5,00	1,00-5,00
Thermal Conductivity W/mK	1	1,3	2	2,5	3	4	5	7
Hardness Shore 00	40	9	25-40	40	10-60	40	28-40	20-40
Density g/cm ³	2,37	2,5	2,73	2,7	2,65	3,1	3,1	2,55
Dielectric Breakdown Voltage VAC/mm	5000	5000	5000	5000	400-8000	>8000	5000	1500 - 8000
Flammability UL94	V0	V0	V0	V0	V0	V0	V0	V0



TECHNICAL ADHESIVES, ENCAPSULANTS & CASTING



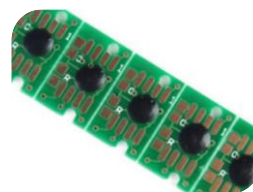
Electrically conductive adhesives
(ISOTROPIC/ ANISOTROPIC)



Thermally conductive adhesives



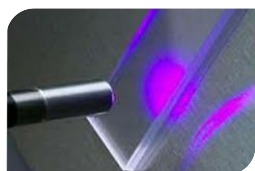
Underfill encapsulants



"Glob top"
"Dam & Fill"
encapsulants



SMD-adhesives



UV-curable adhesives



Structural adhesives



Special Casting materials

Hand Soldering, Repair & Rework

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Metcal is one of the worldleaders for benchtop soldering equipment. With **SmartHeat®** and now with Connection Validation™ – both industry firsts – Metcal breakthroughs have empowered our global electronics assembly customers in the automotive, aerospace, medical device, and military sectors.

METCAL GT-90 & GT-120 SOLDERING STATION

The GT adjustable temperature technology has a fast and repeatable heating mechanism and encompasses the convenience of temperature adjustment with the stability and performance of inductive heating. This gives the GT systems a significant performance advantage with much faster time to temperature, thermal recovery and temperature stability during soldering versus competitors in the same product category.



METCAL CV-500 & CV-5200 SOLDERING STATION

The intermetallic compound (IMC) thickness is critical in the formation of a solder joint. **Connection Validation™ (CV)** evaluates the quality of the solder joint by calculating the IMC formation and provides closed-loop feedback to the operator. The CV-5200 series features also the patented **SmartHeat®** power on demand technology built-in.

KEY FEATURES & BENEFITS

- SmartHeat® Technology
- Tipsaver workstand
- ESD Safe
- Traceability Software



AVAILABLE HAND-PIECES FOR CV-SOLDERING SYSTEM



Advanced & Ultrafine



High thermal demand



(Ultra-fine) tweezers



Desolder-handpiece

METCAL HCT2-200-11 HOT AIR PENCIL

This digital handheld convection tool is ideally suited for light rework applications, which use smaller components and integrated circuits. As component miniaturization continues (i.e. 01005 components) the ergonomics of a pencil allow a user more freedom to access and rework components on the board without affecting adjacent parts.



METCAL HCT-1000 PROGRAMMABLE HAND HELD CONVECTION TOOL

The HCT-1000 System is a fully programmable hand held convection rework tool that can both remove and place SMT components. It features digital controls, internal or external thermocouple feedback control, program storage of up to 50 profiles and integrated vacuum pick-up for component placement and removal.



Hand Soldering, Repair & Rework

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METCAL PCT-1000 CONVECTION PREHEATER & TOOLHOLDER

The PCT-1000 is a fully programmable preheater offering more heat capacity for soldering with lower temperatures for The PCT-1000 provides users exceptional ability to increase heat capacity with highly controlled thermal output.



METCAL MFR-1350 DESOLDERING SYSTEM WITH INTERNAL PUMP

The MFR-1350 features an internal pump providing 0.7 bar of vacuum suction force combined with Smarheat® technology that makes through-hole desoldering easy and keeps your products safe from board damage.



METCAL MFR-1350 DESOLDERING SYSTEM WITH INTERNAL PUMP

Metcal's new solder tip cleaner removes oxidation and extends the life of the solder tip. By placing the tip into the opening, the tip cleaner senses the tip and automatically activates saving the operator time. A replaceable brush system pulls excess solder away from the tip into a removable collection tray for disposal while removing oxidation from the tip.



METCAL BVX-201 FUME EXTRACTION SYSTEM

While lead-free solder is good for the environment, it increases the need for fume extraction. Metcal fume extractor systems have a highly efficient filter to remove all the toxic solder fumes and keep workers healthy. The BVX-201 is a two operator, PRE-HEPA-GAS volume extraction system designed to be used adjacent to the workbenches.



METCAL DX-355 PROGRAMMABLE DISPENSER (0 to 1.0 bar)

The DX-350 series offers 10 user programmable dispense routines and 4 operating modes. The time, pressure and vacuum read-outs are displayed digitally. It is intuitive to use and allows accurate reproduction of sequences of beads or dots. The DX-350 includes an adjustable vacuum-driven "suck-back" to control material "tailing" and waste.



ADDITIONAL EQUIPMENT FOR FLUID DISPENSER



Syringes, pistons, caps



Dispensing tips



Syringe holder



Manual syringe gun

KAPTON TAPES & DOTS

Rotec supplies also a full range of kapton tape and dots, optional ESD safe tape and low tacky mylar foils that can be used to check offsets on first prints after a new printer set-up.



STENCIL UNDERWIPE ROLLS

Rotec offers underwipe rolls to remove excess paste, adhesives and other dirt that can stick to the bottom of a stencil. It's highly absorbent and low linting material, yet incredibly strong even when wet.



ECD DATA LOGGERS FOR THERMAL PROFILING

The only way to get time and temperature just right is to measure and analyse. That's what ECD does best. Our 50+ years of innovative product development has yielded the most comprehensive portfolio of Thermal Profiling technology tools to ensure that electronics thermal processes are in control.



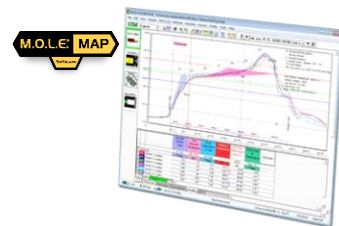
SuperM.O.L.E.® Gold 2

6 Thermocouple Channels
GO/NO-GO LED indication
USB 2.0 interface
96 thermal profile storage
Thermocouple active indication
Automatic detection of RIDER® test pallets



V-M.O.L.E.®

3 Thermocouple Channels
GO/NO-GO LED indication
USB 2.0 interface
96 thermal profile storage



M.O.L.E.® MAP

- Plug & play
- Prediction function
- Extensive machine database
- Target-10 GO/NO-GO Decision tool

VARIOUS ACCESSORIES



SideRIDER™



Board Carrier™



SelectiveRIDER®



WaveRIDER®



ReflowValidator