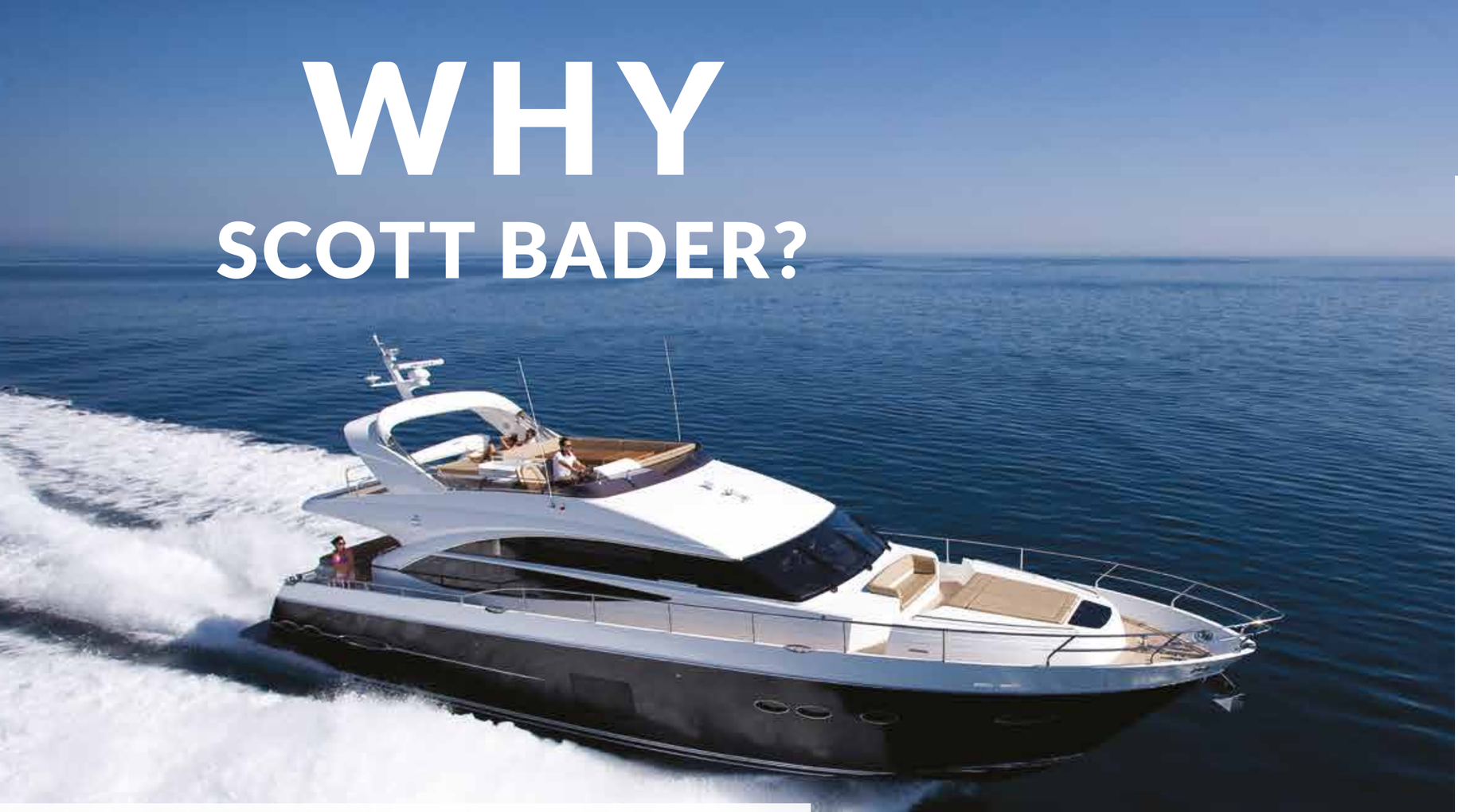
SCOTT BADER

MARINE

WHY SCOTT BADER?



1

MATCHED COMPOSITE AND ADHESIVE SYSTEMS

Complete solutions for building world-class boats, with market leading quality and performance.

2

RENOWNED TECHNICAL SUPPORT

With over 70 years of marine expertise, our experts are on hand to support you every step of the way.

3

TRUSTED AROUND THE WORLD

With long-standing partnerships, we are trusted by the world's leading boatbuilders.

Scan for our marine page

WELCOME TO MARINE TECHNOLOGY EXCELLENCE

Scott Bader has been the undisputed expert in marine technology for 70 years and continues to drive future innovations today.

We pioneered the use of fibre reinforced plastic (FRP) in the marine industry and it was a Scott Bader resin that was used in the first ever composite boat in 1951– the Tod 12 Dinghy[1].

CONTENTS

[1] http://www.cvrda.org/dinghydata/tod-12ft/

MARINE PRODUCTS AND APPLICATIONS

Small fixings

Crestomer® Advantage cartridges
Crestabond® M1 & M7 series cartridges
Metal to GRP

Closed mould infusion resins

Crystic® 701PA
Crystic® 703PA
Crystic® VE679-03PA

Hand lay-up laminating resins - styrene control

Crystic® 2 Series LSE
Crystic® LS 451PA

Engine room protection

Fire protection: Crystic® Fireguard
Crystic® GSC1001PA

Engine bed stiffeners and stringer bonding

Crestomer® 115*PA series
Crestafix® 621CC series
Crestafix® 630PA

Deck to hull bonding

Crestomer® 115*PA series
Crestafix® 621CC series
Crestafix® 630PA|
Crestomer® Advantage cartridges
Crestabond® M1 & M7 series

Core bonding

Crestomer® 1196PA
Crestafix® 90-84PA
Crestafix® B72R
None - infused hulls with integral cores don't need a core bonding adhesive

Gelcoats for weather and blister resistance

Spray LS 3OPA Excel
Brush LS 31PA excel
Brush: Crystic® LS 88PA
Spray: Crystic® LS 97PA

Skin coats for surface finish and water resistance

Crystic® VE690PA
Crystic® VE679PA
Crystic® VE671PAT
Crystic® 489PA

Interior finishing

Fairing and corner filling: Crestafix® F26R
Internal surfaces: Crystic® TC506PA, TC507PA
Bulkhead bonding
Crestomer® 115*PA series

Diesel resistant bonding

Crestafix® 630PA
Crestomer® 1152PA
Crestabond®

Fuel storage safety

Laminates for diesel resistance:
Crystic® VE690PA
Crystic® VE661PA
Crystic® VE661-03PA and VE679-03PA

Lloyd's Register ClassNK DNV RINA

QUALITY ASSURED

Before a product goes to market it will have completed Scott Bader's rigorous development programme. All new gelcoats are tested under the most extreme conditions, including 12 months continuous exposure in Florida in order to satisfy the accelerated weather programs and blistering tests.

Once tested, each batch of gelcoat manufactured has to pass stringent quality control tests that ensure consistent quality, colour, surface finish and handling. Products are then approved by the key industry standards as appropriate, such as Lloyds, ClassNK, DNV-GL and RINA.

HEAR WHAT CUSTOMERS SAY

"Scott Bader's technical team are always quick to respond and willing to help. Their products are adapted to suit the environment (heat exposed location) in which we work, from resins to bonding pastes, their products are durable and easily applicable with straight forward instructions."

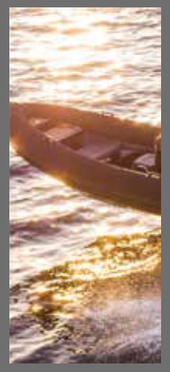
Talia Maggi Vice President of the Commercial Division, Gulf Craft

"Scott Bader are an integral partner for Princess Yachts. We value the high quality of the materials supplied and the responsive technical support we receive. Their advice and technical recommendations, based on a detailed understanding of our manufacturing process, helps us to optimise our production lines from a chemistry standpoint whilst maintaining the high level of quality Princess Yachts is renowned for. Scott Bader, with their unique Commonwealth ownership structure, excellent products and focus on innovation, give us full confidence in both their products and our long-standing relationship."

Paul Mackenzie Chief Operating Officer, Princess Yachts

"We've a great working relationship with Scott Bader for over 20 years, helping us to offer innovative, market leading ribs to our customers."

Rudie Garton, Technical Manager, Ribeye Boats



CRYSTIC® MATCHED PERFORMANCE SYSTEMS

If you're looking for the ultimate in aesthetics and blistering resistance then look no further! After decades of commercial use, the benefits of using Crystic® Matched Performance Systems have been shown to extend beyond eliminating blistering:

- Exceptional aesthetics
- Improved strength and rigidity
- Greater strength to weight ratios
- Better fuel economy and performance
- Superior water resistance

Optimum laminate construction

GELCOAT	SKIN COAT	RESIN
Spray application		
LS 30PA Excel	VE 690PA	2.420PA
		LS 451PA
LS 97PA	489PA	2.406PA
		2.446PA
	VE 679PA	LS 451PA
Hand lay-up		
LS 31PA Excel	VE 690PA	2.420PA
		LS 451PA
LS 88PA	489PA	2.406PA
		2.446PA
65PA	VE 679PA	LS 451PA
Closed mould		
LS 30PA Excel	VE 690PA	701PA
LS 31PA Excel	489PA	702PA
LS 88PA		703PA
LS 97PA	VE 679PA	VE 679-03PA
65PA		

CHECK OUT THE WHOLE CRYSTIC® PRODUCT RANGE

Scott Bader has an extensive gelcoat, resin and pigment paste range, ask your local Scott Bader contact for more details.

Crystic® matched performance range overview

PRODUCT	DESCRIPTION	VISCOSITY (Poise)	GELTIME (mins)*	TENSILE STRENGTH (MPa)*	TENSILE MODULUS (GPa)*	ELONGATION AT BREAK (%)*	APPROVALS
Gelcoats							
LS 30PA Excel	Superior weathering Iso/NPG spray gelcoat	Thix.	9	52	3.4	2.8	Lloyds
LS 31PA Excel	Superior weathering Iso/NPG brush gelcoat	Thix.	9	52	3.4	2.8	Lloyds
LS 97PA	An exceptional isophthalic spray gelcoat with excellent u.v. resistance, gloss retention and water resistance	Thix.	7	51	3.8	2.8	Lloyds
LS 88PA	An exceptional isophthalic brush gelcoat with excellent u.v. resistance, gloss retention and water resistance	Thix.	8	60	3.85	2.8	Lloyds
Skin coats							
VE 690PA	Pre-accelerated DCPD modified vinyl ester resin to create an enhanced surface finish	Thix.	15	60	2.7	4.3	Lloyds
489PA	Isophthalic skin coat with excellent durability and blister resistance	Thix.	12	76	3.5	4.0	Lloyds
VE 679PA	Pre-accelerated DCPD modified vinyl ester resin to create an enhanced surface finish	Thix.	34	60	2.7	4.3	Lloyds
Resins							
2.420PA	Orthophthalic resin with low styrene emission, low exotherm and long geltime	Thix.	63	44	3.7	1.3	Lloyds
2.406PA	Orthophthalic resin with low styrene emission, low exotherm and rapid wet out	Thix.	11	54	3.7	1.7	Lloyds
2.446PA	Orthophthalic resin with low styrene emission, rapid wet out and fast hardening ideal for rapid mould turnaround	Thix.	25	50	3.8	1.5	Lloyds
LS 451PA	High performance low styrene DCPD modified resin to create an enhanced surface finish	Thix.	20	46	2.7	2.5	Lloyds
701PA	Closed mould isophthalic resin with low viscosity and controlled exotherm characteristics	1.6	59	66	3.6	2.5	Lloyds
703PA	Closed mould DCPD resin with low viscosity and controlled exotherm characteristics	1.6	64	38	3.1	1.3	Lloyds
VE 679-03PA	Pre-accelerated, non-thixotropic VE/DCPD resin for vacuum infusion	1.85	60	64	3.3	2.3	Lloyds

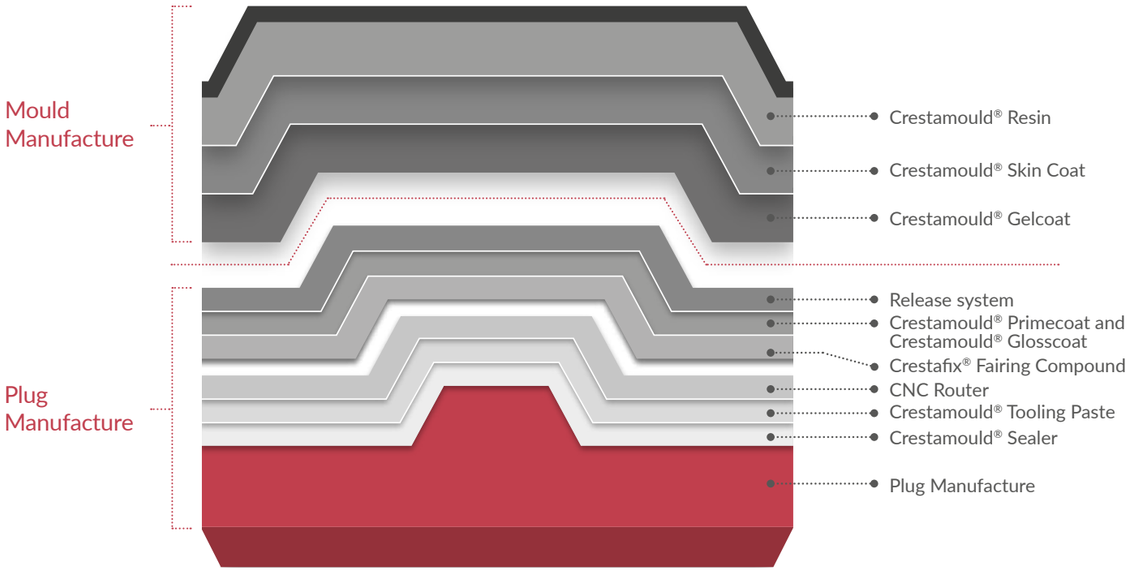
*A variety of cure systems were used. Results are from a variety of different catalyst systems and cure programs and should be used for indicative comparison only. See individual product datasheets for more information.

CRESTAMOULD®
Matched Tooling Systems

The quality of your mouldings can only be as good as the quality of your mould, making it essential that you use an appropriate and quality tooling system, like Scott Bader's Crestamould® Matched Tooling System.

Using chemically matched products that work together, the high-performance Crestamould® Matched Tooling System delivers an excellent standard of mould production with great benefits to your project:

- Significantly increases the lifetime of moulds in production
- Enhanced gloss finish and gloss retention compared to competitive products
- Easy to apply to required thickness
- Trouble-free de-moulding, even complicated shapes
- Reduced water marking
- Reduced fibre print through for a much smoother gelcoat surface
- Fast mould production



CRYSTIC® MOULDGUARD

Crystic® Mouldguard is a tough temporary coating specially designed for protecting moulds and mouldings.

Often, decommissioned moulds are stored outside where they are subjected to standing water, UV light, dirt and frost so they become damaged or scratched. Most moulders would agree that they rarely achieve the same quality of surface that they had before being decommissioned. Crystic® Mouldguard offers a simple solution.

MOULD MANUFACTURE

Crestamould® Gelcoat

Crestamould® Gelcoat 15PA is a superior performance vinylester tooling gelcoat for making moulds designed to have a long service lifetime and retain high gloss levels after multiple pulls. Easy to apply with good coverage, there is no gassing ensuring a very low porosity surface. It cures with a standard MEKP catalyst. and is available in both spray and brush.

Crestamould® Skin Coat

Crestamould® Skin Coats VE679PA and VE690PA are pre-accelerated thixotropic DCPD modified vinylester resins that have been developed as a skin coat in tooling applications. They have excellent blister resistance and reduced print through.

Crestamould® Resin

Crestamould® Rapid Tooling Resin (RTR) 4010PA is a rapid tooling resin with outstanding handling properties, lower viscosity, improved shrinkage control and a standard MEKP catalyst. Available in natural and white It enables fast mould making and eliminates surface distortion.

PLUG MANUFACTURE

Crystic® Primecoat

Crystic® Primecoat is a high build, polyester coating material which allows the rapid surfacing of patterns constructed from materials such as wood, MDF and GRP. It can be applied wet-on-wet up to a thickness of 1.5mm in one operation without sagging or draining from vertical surfaces.

Crystic® Glosscoat

Crystic® Glosscoat is a polyester coating designed to be applied over prepared Crestamould® Primecoat to give a glossier and more durable surface. The material hardens rapidly and can be easily sanded to a smooth surface which can be polished to high gloss.

Crestafix® Fairing Compound

A water resistant, low-density polyester-based fairing compound, Crestafix® F26 and Crestafix® F24 VE has excellent adhesion to cured fibre-reinforced polyester and vinylester laminates. The material sands easily, gives a hard finish after a full cure, yet is not brittle and has good impact strength. Crestafix® F26 and F24 VE are suitable for all marine finishes such as polyester, urethane and epoxy paints.

Crestamould® Tooling Paste

Designed for milling of large plugs or direct limited production moulds with CNC multiple axis machines, Crestamould® T29 is a modified polyester compound, available in sprayable or extrudable versions.

Crestamould® Sealer

Previously not possible, Crestamould® B21 sealing resin enables laminating with polyester resin on top of polystyrene foams. Just one coat applied by brush will seal the surface ready for laminating with polyester resins two hours after application.

CRYSTIC® GC LS 30PA EXCEL

Crystic® GC LS 30PA Excel is a superior weathering Iso-NPG gelcoat specifically designed for marine applications. It is pre-accelerated and formulated for spray application.

Crystic® GC LS 30PA Excel has been developed to have excellent intrinsic water and weather resistance. The viscosity profile ensures even coverage with minimal drainage and low film porosity.

- Enhanced air release system for porosity control during spray application
- Stability performance suitable for warmer climates
- Specially formulated ISO-NPG UV-resistant base resin chemistry
- Ease of application
- Compatible with MEKP curing peroxides – no gassing
- Consistent batch-to-batch quality and colour consistency
- High gloss
- Excellent repair characteristics
- Long term weathering resistance
- Excellent porosity control
- Excellent blistering and osmosis resistance

Colour stability testing and measuring

The prime objective was to develop gelcoats with exceptional gloss retention and colour retention, reducing the yellowing of white and cream-coloured gelcoats. Measuring the colour change was a critical factor for the project.

Comparative colour change testing

Crystic® LS 30PA/31PA EXCEL was tested against a range of existing “best in class” white gelcoats. Accelerated QUV testing was carried out in advance of the longer-term Florida 12 Month UV exposure test results. Four sets of gelcoat plaques were tested at the same time with 12 months continuous exposure in Florida in comparison with the best-in-class marine approved Iso-NPG.

Results

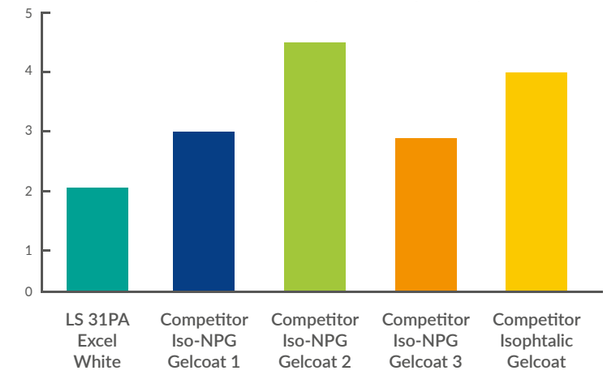
Crystic® LS 30PA/31PA EXCEL gelcoat clearly provided better colour stability. Similarly, Crystic® LS 3PA0/31PA EXCEL achieved the same critical performance requirement meaning Scott Bader has a high degree of confidence using Crystic® LS 30PA/31PA EXCEL for white hulls below the water line.

Gloss retention

12-month Florida weathering highlighting the superior gloss retention of LS 31PA Excel compared to competitive products.

Colour change (dE)

12-month Florida weathering demonstrating the significantly reduced yellowing of LS 31PA Excel compared to competitive products.



MOULDINGS MADE TO LAST

An unrivalled and ever-growing range of open and closed mould marine approved matched resins.

Skin coat resins

Scott Bader offers an outstanding range of high-performance skin coat resins for the composite marine industry, with excellent blister resistance which significantly reduces the occurrence of print through, to produce durable mouldings with an enhanced surface finish.

Resins

We were the pioneers of glass fibre composites over 70 years ago and still leaders in a wide range of resins for the composites marine sector.

OPEN MOULD

UP Resin

- Crystic® 2-series PA - LSE resin
- Crystic® LS 451PA - DCPD resin
- Crystic® 489PA – isophthalic
- Crystic® 491PA – Isophthalic

Vinyl Ester + Vinyl Ester DCPD modified resins

- Crystic® VE 671PAT
- Crystic® VE 690PA
- Crystic® VE 679PA
- Crystic® VE 677PA

CLOSED MOULD

UP Resin

- Crystic® 701PA
- Crystic® 702PA
- Crystic® 703PA
- Crystic® 785PA

Vinyl Ester

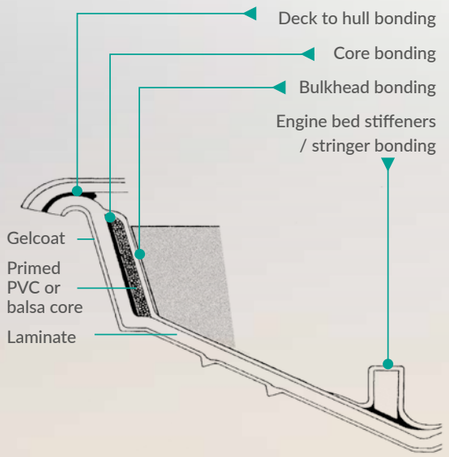
- Crystic® VE 679–03PA
- Crystic® VE 677-03PA

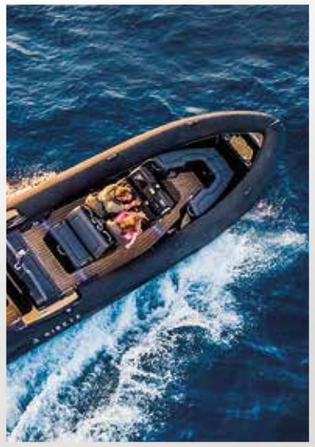
Lloyd's Register

CRESTOMER®

Urethane Acrylate Structural Adhesives

Crestomer® structural adhesives are used by the world's leading boatbuilders to improve performance, save time, and achieve considerable weight savings.





Crestomer® product range overview

PRODUCT	DESCRIPTION	APPROVALS	APPEARANCE	WORKING TIME (mins)	FIXTURE TIME (hrs)***	TENSILE STRENGTH (MPa)	TENSILE MODULUS (MPa)	TENSILE ELONGATION (%)	SPECIFIC GRAVITY (g/cc)
1150PA	High performance structural adhesive with shorter fixture time	Lloyds, ClassNK	Mauve gel	50*	5	22 - 25	1000 - 1500	100 - 120	1.05
1151PA	Adhesive for bulk application Amine accelerated	Lloyds, ClassNK	Green/ yellow gel	25**	2.5	22 - 25	1000 - 1500	100 - 120	1.05
1152PA	High performance structural adhesive	Lloyds, RINA, DNV-GL, ClassNK	Mauve Gel	50*	10	22 - 25	1000 - 1500	100 - 120	1.05
1153PA	High performance structural adhesive with long open time	Lloyds, RINA, ClassNK	Mauve gel	90*	8.5	22 - 25	1000 - 1500	100 - 120	1.05
1154PA	High performance structural adhesive with a lower modulus	Lloyds	Mauve gel	90	8.5	22-25	400-800	100-120	1.05
1186PA	Multi-purpose structural adhesive	Lloyds	Grey paste	50*	5.5	13 – 16	700 – 900	4 - 7	1.30
1196PA	Low density structural core bonding adhesive	Lloyds, DNV-GL	Pink paste	50*	6.5	19 – 22	1000 - 1500	4 - 7	0.60
Advantage 10[1]	High performance structural adhesive for bonding a wide range of substrates. Minimal surface preparation required. Pre-packed in cartridges	Lloyds	White paste	10	1.2	22 - 25	400 - 600	100 - 120	1.15
Advantage 30[1]		Lloyds, DNV-GL	White paste	30	2.5	22 - 25	400 - 600	100 - 120	1.15
Advantage 60		Lloyds	White paste	60	3.0	22 - 25	400 - 600	100 - 120	1.15

Crestomer® dispensing equipment

- Crestomer® Advantage 10, 30 and 60 cartridges can be used with a manual or pneumatic gun. Suitable dispense guns and static mixers are available from Scott Bader
- Crestomer® adhesives can be dispensed directly from pails and drums using a manual or automated dispensing machine/ putty gun
- Scott Bader technical support can provide advice on appropriate dispensing equipment

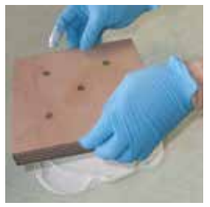
*2% medium reactivity MEKP at 25°C **2% Perkadox® BT-50 at 25°C ***Time taken at 23°C to achieve 1.4MPA strength in lap-shire tests according to BS ISO 4587.
[1]Minimum order quantity 3000 cartridges each.

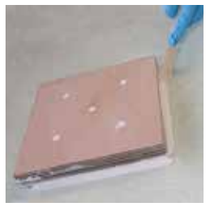
CRESTAFIX®

Polyester, Vinyl Ester and
Hybrid Bonding Pastes

Bonding pastes are designed specifically for applications requiring a high performance adhesive. The Crestafix® range has been carefully formulated to ensure ease of application, while retaining exceptional handling properties.







OUR RANGE OF BONDING PASTES

General purpose

Materials suitable for non-structural GRP applications. The extensive range includes both orthophthalic and isophthalic bonding pastes with a variety of features, ensuring customers can find the right material for their application.

Fast cure

Materials suitable for non-structural GRP applications that cure very rapidly for either repair or fast assembly applications.

Low density

Also referred to as a core bonder, a low density paste is used to bond polyester laminates and to also to bond polyester laminates to balsa, PVC and PU core materials in sandwich structures.

Fibre filled

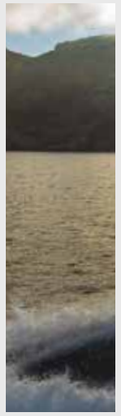
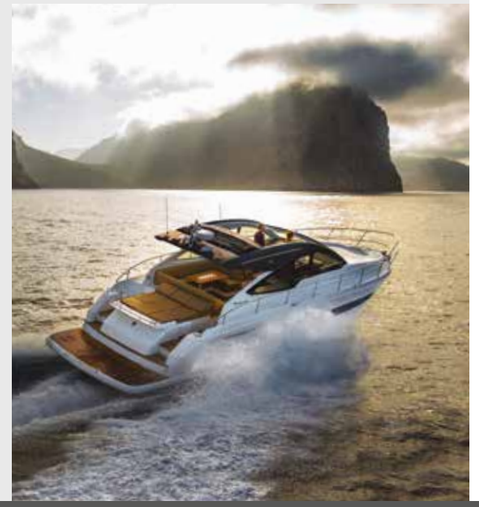
Bonding pastes containing short glass fibres to maximise bonding strength and provide excellent gap filling and bridging properties.

High performance

These materials are formulated with the addition of unique Scott Bader urethane acrylate polymers, providing improved fatigue resistance and bonding strengths, particularly when compared to general purpose bonding pastes. These materials can be used for some structural applications.

Fairing compounds

Bonding pastes which are smooth, fast setting and easily sandable. They are used for smoothing out rough fibreglass surfaces.

Crestafix® adhesive product range overview

CATEGORY	NAME	DESCRIPTION	WORKING TIMES (mins)*	COLOUR CHANGE	TENSILE ELONGATION (%)	LAP SHEAR STRENGTH (MPa)**	SPECIFIC GRAVITY (g/cc)
GENERAL PURPOSE	B39W	Pumpable polyester-based bonding paste with gap filling properties	55	None (grey)	1	4	1.05
	90-82PA	General purpose orthophthalic bonding paste	12	Blue to white	2	5	1.35
HIGH PERFORMANCE	621CC45	Urethane acrylate/ isophthalic polyester bonding paste	25	Blue to grey	3	10	1.25
	621CC85	Urethane acrylate/ isophthalic polyester bonding paste	50	Blue to grey	3	10	1.25
	630PA	Vinyl ester bonding paste	60	Deep purple to brown	3	7	1.10
FAST CURE	90-78PA	Fast cure orthophthalic bonding paste	8	None (white)	1	5	1.30
LIGHT WEIGHT	90-84PA	Lightweight orthophthalic bonding paste with low exotherm	30	Blue to cream	6	4	0.60
FIBRE FILLED	90-80PA	Polyester bonding paste with short fibres	12	Blue to grey	2	4	1.25
CORE-BOND	B72R	Lightweight, polyester-based core adhesive for foams and balsa	55	Blue to white	2	5	0.70
FAIRING COMPOUND	F26R	Fast setting polyester-based fairing compound with good sanding properties	3	None (light pink)	1	2	0.70
	F24VE	Lightweight, 100% vinyl ester resin fairing compound for use below the waterline	10	None (grey)	1	2	0.70

Bonding pastes dispensing equipment

- Pails and drums can be dispensed using an automated 50:1 dispensing machine
- Scott Bader technical support can provide advice on appropriate dispensing equipment and catalyst usage

*1-2% medium reactivity MEKP @25°C Refer to TDS for specific catalyst levels.
**Values are based on substrate failure.

CRESTABOND®

Primerless MMA Structural Adhesives

Toughened, two component primerless structural adhesives designed for bonding composites, thermoplastics and metals, making them ideal for the marine industry.

Key information:

CRESTABOND® FEATURES	CUSTOMER BENEFITS
Primerless adhesives	Dramatically enhances production efficiency and reduces consumable costs
Minimal surface preparation	Reduces dust emissions and preparation time
Excellent fatigue and impact resistance	Confidence in the longevity of the finished product
Range of working and fixture times	Optimises production cycles to reduce manufacturing costs
Good gap filling capability	Adhesive can be used in multiple applications
Bonds dissimilar substrates	Provides flexibility in structural designs

Crestabond® dispensing equipment

- The Crestabond® cartridges can be used with a manual or pneumatic gun. Suitable dispense guns and static mixers are available from Scott Bader
- Crestabond® adhesives can be dispensed directly from pails and drums using an automated 1:1 or 10:1 dispensing machine
- Scott Bader technical support can provide advice on appropriate dispensing equipment

PRODUCT	COMPOSITES	METALS					PLASTICS				
	GRP	STAINLESS STEEL	ALUMINIUM	POWDER COATED STEEL	COLD ROLLED STEEL	GALVANISED	ABS	ACRYLIC	POLYCARBONATE	PVC	PP/PE & TPO
M1 range	●	●	●	●	●		●	●	●	●	
M1 HV	●	●	●	●	●		●	●	●	●	
M7 range	●	●	●	●	●	●	●	●	●	●	
PP-04	●	●	●		●		●	●	●	●	●

Crestabond® adhesive selection guide

Choose the appropriate Crestabond® adhesive product with optimal working and fixture times that will ensure long-term adhesion and durability.

PRODUCT	DESCRIPTION	COLOUR	MIX RATIO BY VOLUME	VISCOSITY (cP)	WORKING TIME (mins)	FIXTURE TIME (mins)*	TENSILE STRENGTH (MPa)	TENSILE MODULUS (MPa)	ELONGATION AT BREAK (%)	GAP FILL (mm)
M1-02	Universal bonder	Dark grey	10:1	100,000 - 140,000	1 - 2	2 - 3	12 - 16	600 -1000	80 - 100	1 - 15
M1-04	Universal bonder	Dark grey	10:1	100,000 - 140,000	3 - 5	8 - 10	16 - 20	600 -1000	80 - 100	1 - 15
M1-05	Universal bonder	Dark grey	10:1	100,000 - 140,000	4 - 7	12 - 18	16 - 20	600 -1000	80 - 100	1 - 15
M1-10	Universal bonder	Dark grey	10:1	100,000 - 140,000	8 - 12	16 - 23	16 - 20	600 -1000	80 - 100	1 - 15
M1-20	Universal bonder	Dark grey	10:1	100,000 - 140,000	16 - 22	25 - 35	16 - 20	600 -1000	80 - 100	1 -25
M1-30	Universal bonder	Dark grey	10:1	200,000 - 240,000	25 - 35	60 - 80	18 - 22	600 -1000	100 - 130	1 - 50
M1-60HV	Universal bonder	Green	10:1	340,000 - 380,000	50 - 70	150 - 180	22 - 26	1200 - 1600	50 - 70	1 - 50
M1-90HV	Universal bonder	Green	10:1	340,000 - 380,000	80 - 100	210 - 240	22 - 26	1200 - 1600	50 - 70	1 - 50
M7-04	Universal bonder	Off white	1:1	30,000 - 70,000	3 - 5	12 - 15	22 - 25	1200 - 1700	6 - 10	1 - 5
M7-05	Universal bonder	Off white	1:1	30,000 - 70,000	4 - 7	18 - 22	22 - 25	1200 - 1700	25 - 30	1 - 5
M7-15	Universal bonder	Off white	1:1	30,000 - 70,000	10 - 20	30 - 45	22 - 25	1200 - 1700	25 - 30	1 - 5
PP-04	Low surface energy bonder	Off white	1:1	70,000 - 140,000	3 - 5	165 - 180	12 -17	800 - 1200	2 - 5	0.5 -5

Based on laboratory results

*Time taken at 23˚C to achieve 1.4MPA strength in lap shear tests according to BS ISO 4587.

TROUBLESHOOTING

When handled correctly, gelcoats provide a durable and reliable finish.
Here are some common reasons behind why some faults may occur:

Colour tearing
- Pigment separated from resin
- Improper spray technique
- Long geltime, sagging

Colour separation
- Insufficient mixing
- Sagging, drainage
- Poor gelcoat application

Colour mottling
- Poor pigment compatibility
- Viscosity too low
- Gelcoat low in thixotropy

Parallel cracks
- Flex cracking
- Gelcoat too thick
- Laminate too thin / flexible

Star cracking
- Reverse impact
- Gelcoat too thick
- Crack pattern transferred from mould

Crazing
- Chemical attack
- Excessive heat
- Contamination

Blisters on laminates
- Water ingress
- Damp reinforcement
- Air voids

Gelcoat blisters
- Air voids on release
- Unreacted catalyst
- Solvent contamination

Fibre pattern
- Gelcoat too thin
- High exotherm in laminate
- Insufficient cure / released too soon

Colour specks
- Poorly ground / mixed pigments
- Contamination
- Poorly maintained equipment

De-wetting (spray)
- Spray gelcoat applied too thinly
- Incompatible release system
- Contamination

Water-marking / etching
- Areas of thin, double gelcoating on mould
- Two colours gelcoated on mould
- Solvent attack

De-wetting (brush)
- Brush gelcoat applied too thinly
- Incompatible release system
- Contamination

Wrinkling
- Insufficient cure
- Gelcoat too thin
- Back-up too early

Dimpling
- Too heavy wet-on wet spray application
- Insufficient consolidation
- Contamination

Sagging
- Gelcoat too thick
- Geltime too long
- Viscosity / thixotropy too low

Gelcoat peeling
- Contamination
- Gelcoat too fully cured
- Geltime too long - release wax dissolved

Porosity
- Gelcoat too viscous to release air
- Gelled too quickly, entrapping air
- Cold gelcoat and / or mould
- Spray gelcoat applied with too high or low catalyst / gelcoat pressure

SCOTT BADER GROUP COMPANIES

Head Office
Scott Bader Company Limited
Wollaston, England
Tel: +44 (0) 1933 663100
Email: enquiries@scottbader.com

Scott Bader France
Amiens, France
Tel: +33 3 22 66 27 66
Email: enquiries@scottbader.com

Scott Bader Spain
Barcelona, Spain
Tel: +34 93 583 17 68
Email: enquiries@scottbader.com

Scott Bader Germany
Weiden, Germany
Tel: +49 961 401 84474
Email: enquiries@scottbader.com

Scott Bader Ireland
Dublin, Ireland
Tel: +353 1801 5656
Email: enquiries@scottbader.com

Scott Bader Scandinavia
Falkenberg, Sweden
Tel: +46 346 10100
Email: enquiries@scottbader.com

Scott Bader Eastern Europe s.r.o.
Praha 6, Czech Republic
Tel: +420 (0) 485 111 253
Email: enquiries@scottbader.com

Scott Bader Croatia
Zagreb, Croatia
Tel: +385 1 240 6440
Email: enquiries@scottbader.com

Scott Bader North America
Mocksville, NC, USA
Email: info@scottbader-na.com

Scott Bader ATC
Drummondville, Canada
Tel: +1 (819) 477 1752
Email: enquiries@scottbader.com

Scott Bader South Africa
Hammarsdale, South Africa
Tel: +27 31 736 8500
Email: enquiries@scottbader.com

Scott Bader Middle East
Dubai, United Arab Emirates
Tel: +971 481 50 222
Email: enquiries@scottbader.com

Scott Bader Asia Pacific
Shanghai, China
Tel: +86 (21) 5298 7778
Email: enquiries@scottbader.com

Scott Bader Japan KK
Yokohama, Japan
Tel: +81 (0) 45 620 3745
Email: Otoiawase@scottbader.com

Scott Bader Australia
Perth, Australia
Tel: +61 (08) 9418 4555
Email: enquiries@scottbader.com

Scott Bader India
Scott Bader Pvt. Ltd, Mumbai, India
Tel: +91 8655427455
Email: enquiries@scottbader.com

Scott Bader Brasil
Civit II, Serra, ES 29165-973, Brazil
Tel: +55 27 99243-5080
Email: enquiries@scottbader.com

Scott Bader Italy
Milan, Italy
Tel: +39 3454534391
Email: enquiries@scottbader.com

Scott Bader Turkey
Istanbul, Turkey
Tel: +90 542 207 01 86
Email: enquiries@scottbader.com

SCOTT BADER
*Making a **positive** difference*

INVESTORS IN PEOPLE®
We invest in people Gold

Issue 4 - February 2025

SCOTTBADER.COM

Registered office address: Scott Bader Company Limited, Wollaston Hall, Wollaston, Wellingborough, Northamptonshire, NN29 7RL. Registered in England No. 00189141.
Y5085/v402/25