

## Get on Board!

**SMART ADHESIVES FOR BUS & COACH** 



## Bostik, a leading adhesive specialist

As one of the largest adhesive and sealant companies, Bostik's business involves more than just sticking things together. Our adhesives are used in a wide range of industries, from industrial manufacturing, assembly and transportation, to everyday mobility improvement applications.



Bostik has patented over 9,000 technologies for various applications. Today, we operate in the industrial, construction and consumer sectors in more than 50 countries.

## **Bostik in Transportation**

Bus, rail and automotive manufacturers require adhesive technologies that are able to cope with the unique conditions of each region, such as high temperatures or UV exposure.

For buses, coaches and shuttles, Bostik develops an intelligible shortlisted range of technologies covering multiple manufacturing applications and constraints.

Bostik provides a wide range of technologies adapted to multiple applications for the interior and exterior, keeping in mind the need of manufacturers for safer, lighter, and more sustainable solutions. 50% of bus manufacturers are using bostik technologies

75%

OF SMP IN BUS APPLICATIONS COME FROM BOSTIK

98% OF BUS APPLICATIONS CAN BE SOLVED WITH BOSTIK TECHNOLOGIES



## Aligned with manufacturers priorities







#### Safety

Remain committed to create products that comply with stringent safety standards, ensuring the health and well-being of the individuals who manufacture and benefit from the products.

#### Lightweight

Bus manufacturers are redesigning their products and seek for any opportunity to integrate lighter materials, without compromising on their performance and added value.

#### Sustainability

Bus manufacturers face increasingly stringent environmental regulations, need reliable suppliers to develop responsible production processes and study their product's life cycle.

#### SIDE PANELS

SMP Range (ISR / STR) PU Range (PSR) MMA Range (SAF / FIT)

> SEALING FINISHING SMP Range (ISR / STR) PU Range (PSR)

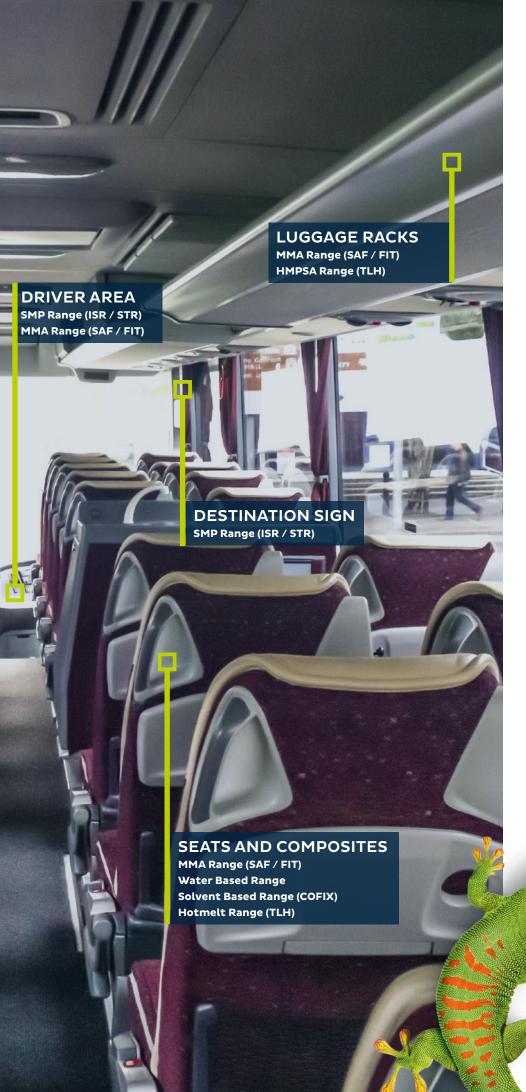
#### WINDOW FINISHING SMP Range (ISR / STR) PU Range (PSR)

WHEEL HOUSES SMP Range (ISR / STR) PU Range (PSR) MMA Range (SAF / FIT) FLOOR PANELS SMP Range (ISR / STR) PU Range (PSR) 111

#### FLOOR COVERING

SMP Range (ISR / STR) Water Based Range Solvent Based Range (COFIX) HMPSA Range (TLH)

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## Interior

#### MAIN APPLICATIONS

Bostik offers solutions for a wide range of interior applications, including:

- Seats & Trim
- Flooring & Roofing
- Cockpit & Components
- Glazing

Depending on the application, Bostik proposes solutions based on different technologies:

- Sealants / Adhesives
- Structurals
- Liquid systems
- Hotmelt adhesives

Bostik's offer allows a bus manufacturer to chose a high performance solution mixed with, depending on the need, key characteristics such as:

• Ease of use

- Low VOC
- CMR free
- CHIRITEE
- Solvent free
- Lightweight

## + Repair

- Engineering Adhesives
- 2KPU



SIDE WINDOWS SMP Range (ISR / STR) PU Range (PSR) Butyl Range

SEALING WINDOWS SMP Range (ISR / STR)

WINDSCREEN SMP Range (ISR / STR) PU Range (PSR)

#### SIDE PANELS

SMP Range (ISR / STR) PU Range (PSR) MMA Range (SAF / FIT) Butyl Range



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DOOR PANELS & WINDOWS SMP Range (ISR / STR) PU Range (PSR) MMA Range (SAF / FIT) EMERGENCY EXITS SMP Range (ISR / STR) PU Range (PSR) Butyl Range

> ROOF PANELS SMP Range (ISR / STR) PU Range (PSR)

> HVAC SMP Range (ISR / STR)

#### FRONT AND REAR ENDS

SMP Range (ISR / STR) PU Range (PSR)

## Exterior

#### MAIN APPLICATIONS

Bostik offers solutions for a wide range of exterior applications, including:

- Glass Bonding & Sealing
- Panel Bonding
- Chassis Bonding
- Various Sealings

Depending on the application, Bostik proposes solutions based on different technologies:

- Sealants / Adhesives
- Structural adhesives
- Hotmelt adhesives

Bostik's offer allows a bus manufacturer to chose a high performance solution mixed with, depending on the need, key characteristics such as:

• Ease of use

- Low VOC
- CMR free
- Solvent free
- Lightweight

## + Repair

- Engineering Adhesives
- 2KPU

LUGGAGE DOORS SMP Range (ISR / STR) PU Range (PSR) MMA Range (SAF / FIT)

CHASSIS MMA Range (SAF / FIT)



	SEALANTS / ADHESIVES		STRUCTURAL LIQUID		HOTMELT	
	SMP	PU	MMA	WATER BASED	SOLVENT BASED	HMPSA/PO
Side Panels	•	(•)	•			
Floor Panels	•	(•)				
Floor Covering	•			•	•	•
Wheel Houses	(•)	(•)	•			
Rear Seat Composite	(•)		•			
Seats			•	•	•	•
Window Finishing	•	(•)				
Sealing Finishing	•	(•)				
Luggage Racks	(•)		•			•
Driver Area	•		•			
Destination Signs	•					
Recomended (•) Possible						

Sealants / Adhesives systems are designed to meet all bonding and sealing requirements, while significantly reducing production time. Bostik has been the market leader with its high end value free isocyanate ISR range SMP technology. Their UV resistance makes them ideal for sealing the windows and body construction of buses and RVs. SMP products also save time in the painting process. Paint can be applied after the bead has formed a skin layer; while polyurethane sealants need to have fully cured prior to painting. **Structural** adhesives are load-bearing, they add strength to the final part that is being bonded for durability and Bostik MMA provides a unique balance of high strength, impact and fatigue resistance, flexibility, elongation, shear and peel strength, and are usable within a wide temperature range. They cure at ambient temperatures with controlled cure speed and allow little to no surface preparation. They are not moisture sensitive and are water and chemical resistant.

# Interior



	SEALANTS /	ADHESIVES	STRUCTURAL	BUTYL			
	SMP	PU	MMA	<b>Butyl</b> (liquid or tape)			
Front & Rear Ends	•	(•)	(•)				
Windscreen	•	(•)					
Side Windows	•	(•)		•			
Sealing Windows	•						
Side Panels	•	(•)	•	•			
Luggage Doors	•	(•)	•				
Door Panels & Windows	•	(•)	•				
Emergency Exits	•	(•)		•			
Roof Panels	•	(•)	(•)				
HVAC	•						
Chassis			•				
Recomended (•) Possible							

Using **Hotmelt** adhesives for a range of applications offers the following advantages: optimal holding power to corrugated material, superior flexibility for better performance under constant stress, and quick adhesion. Bostik's **Butyls** for exterior applications non-hardening mastic sealants designed to form a weatherproof and dustproof seal, which stays permanently flexible. HMPSA/PO for interior applications provide instant bonds as they solidify by cooling, and remain permanently tacky. **Liquid** adhesives are sprayable and offer excellent adhesion to low surface energy substrates. Solvent based adhesives are designed for pressure bonding application with a fast dry time, quick processing, and excellent creep resistance and green strength. Water-based adhesive technology is an environmentally friendly product. Water-based adhesive technology are highly versatile materials capable of adhesion to many substrates. They offer high tack and good water and heat resistance.

## **European product sheet**

SEALANTS / ADHESIVES							
Products	Technology	Application	Skinning time	Elongation	Technology advantages		
ISR 70-08 AP	SMP	Windscreen	15 min	200%	Isocianate free, Primerless, Odourless, Low VOC, Easy handlin Efficient, Storage stability, Reliable		
ISR 70-05 AP	SMP	Bonding	15 min	200%	Isocianate free, Primerless, Odourless, Low VOC, Easy handlir Efficient, Storage stability, Reliable		
ISR 70-03	SMP	Sealing and Bonding	10 min	250%			Odourless, Low VOC, ent, Storage stability, Reliable
ISR 70-03 sskf	SMP	Sealing and Bonding	20 min	250%	Isocianate free, Primerless, Odourless, Low VOC, Good initial strength, Efficient, Storage stability, Reliable		
STR 60-05	SMP	Bonding	15 min	100%	High modulus for bonding, Easy to apply, Silicone, PVC and isocyanate free		
STR 60-03	SMP	Sealing and Bonding	30 min	300%	Excellent UV stability and ageing properties, Easy to apply, Solvent, isocyanate, and PVC free		
PSR 50-08	PU	Windscreen	35 min	300%	One-component, high viscosity, Flexible and high performance elastomeric polyurethane, Solvent free, Odourless and also nonconductive		
PSR 50-01	PU	Sealing	90 min	750%	High elastici	ty, Bubble free	curing, Non-sagging properties
PSR 40-08	PU	Windscreen	20 min	500%	One-component, Fast curing, Flexible and high performance polyurethane adhesive for the bonding of vehicle glass direct glazing		
PSR 40-03	PU	Sealing and Bonding	70 min	650%	Suitable for sealing and bonding applications, Good open time, Cost effective product		
PSR 40-01	PU	Sealing	120 min	750%	Suitable for sealing applications, High elasticity, Cost effective		
STRUCTURAL AD	HESIVES						
Products	Technology	Application		Open Time	Elongation	Lap Shear Strength	Technology advantages

Products	Technology	Application	Time	Elongation	Strength	Technology advantages
FIT30 15	MMA	Metal and galva bonding, com- posites. High peel resistance	5-7 min	30%	20 MPa	Structural bonding, High modulus, Primerless, Fast curing, Non-sagging, Reliable, Composite, Metal
SAF Ultimate 10	MMA	Very fast setting, metal, plas- tics, composite	5-6 min	90%	18 MPa	Fast curing. Metal bonding, Impact resistance, Primerless
SAF Ultimate 15	MMA	Panel bonding, plastic, composites. Fast curing	6-8 min	90%	15 MPa	High impact resistance, Fast curing Powder coating resistance, Primerless
SAF Ultimate 25	MMA	Large panel bonding, plastics, composites	12-15min	120%	17 MPa	Metal bonding, High impact resistance, Medium curing, Primerless

#### LIQUID ADHESIVES

Products Technology		Application	Application Temp.	Application Method	Technology advantages
COFIX	SB	Bonding	+15°C - +30°C	Spatula, roller or brush	PVC Flooring: Solvent based adhesive
COFIX S	SB	Bonding	+15°C - +30°C	Spray	PVC Flooring: Solvent based adhesive
Bostik 31	WB	Bonding	+15°C - +30°C	Brush & Trowel	PVC Flooring: Waterbased contact adhesive
Bostik's Best	WB	Bonding	+15°C - +30°C	Brush & Trowel	PVC Flooring: Waterbased contact adhesive

#### HOTMELT ADHESIVES

Products	Technology	Application	Application Temp.	Application Method	Technology advantages
H9438	НМРО	Seats, Floor covering and Luggage Racks	+180°C - +200°C	Roll coater and slot die nozzle	High green strength, High temperature resistance
TLH 2211 E	HMPSA	Seats, Floor covering and Luggage Racks	+150°C - +180°C	Roll coater and slot die nozzle	Good balance peel and tack, High shear resistance and Can be foamed

DOTTE								
Products	Technology	Application	Application Temp.	Application Method	Technology advantages			
B1183	Butyl	Side windows, Side panels, Emergency exits	Room Temperature	Rolls	Permanent plastic and permanent tacky, Excellent aging and weather resistance			
B1590	Solvented Butyl	Side windows, Side panels, Emergency exits	Room temperature	Hand or compressed air gun	High sealing performance			

PRIMERS A	ND CLEANERS	REPAIR			
Products	Application	Products	Technology	Application	
Cleaner I	Cleaner I Simson Cleaner I is an ideal cleaner for cleaning		Cyanoacrylate	Plastic repair, Gap filling	
	and degreasing of substrates	Flex	Cyanoacrylate	Application for vibration resistance	
Prep G	Prep G has been developed as a black pre-treatment for use on glass that is not protected from UV by a ceramic coating.	Structural	Cyanoacrylate	Application requires process flexibility	
Prep CS	Simson Prep CS is a one-step pretreatment for the improvement of the adhesion on closed substrates.		2KPU	Plastic repair for interior and exterior, bumpers etc.	



## Bostik is prepared for the future



#### **Electrification**

Beyond the traditional applications detailed before, Bostik's product portfolio is evolving to support bus manufacturers in their new challenges.



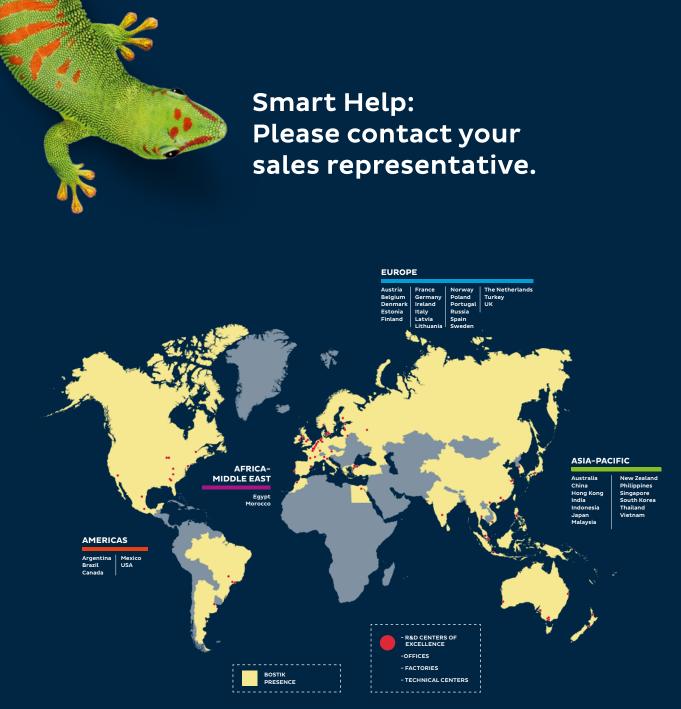
#### Connectivity Bostik is now able to pr

Bostik is now able to propose **engineering adhesives** for applications in the E&E, in line with the development of the electrification of the powertrain, the multiplication of sensors, and the advent of infotainment.



#### **Autonomous driving**

As part of the Arkema group, Bostik benefits of a dynamic environment in these new domains of application.



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an Arkema company

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