

Transforming Recreational Vehicles & Caravans

with Advanced
Composites



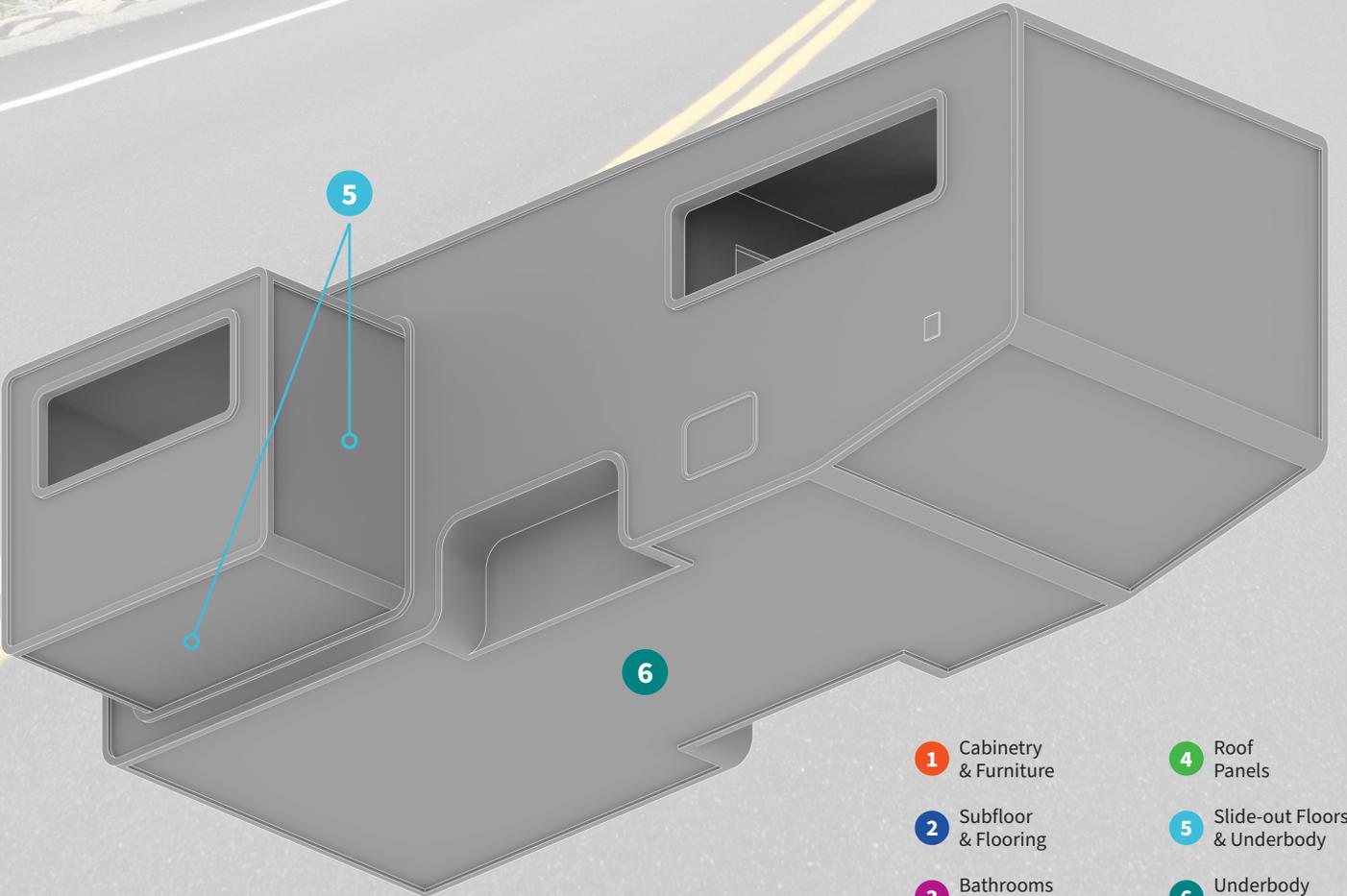
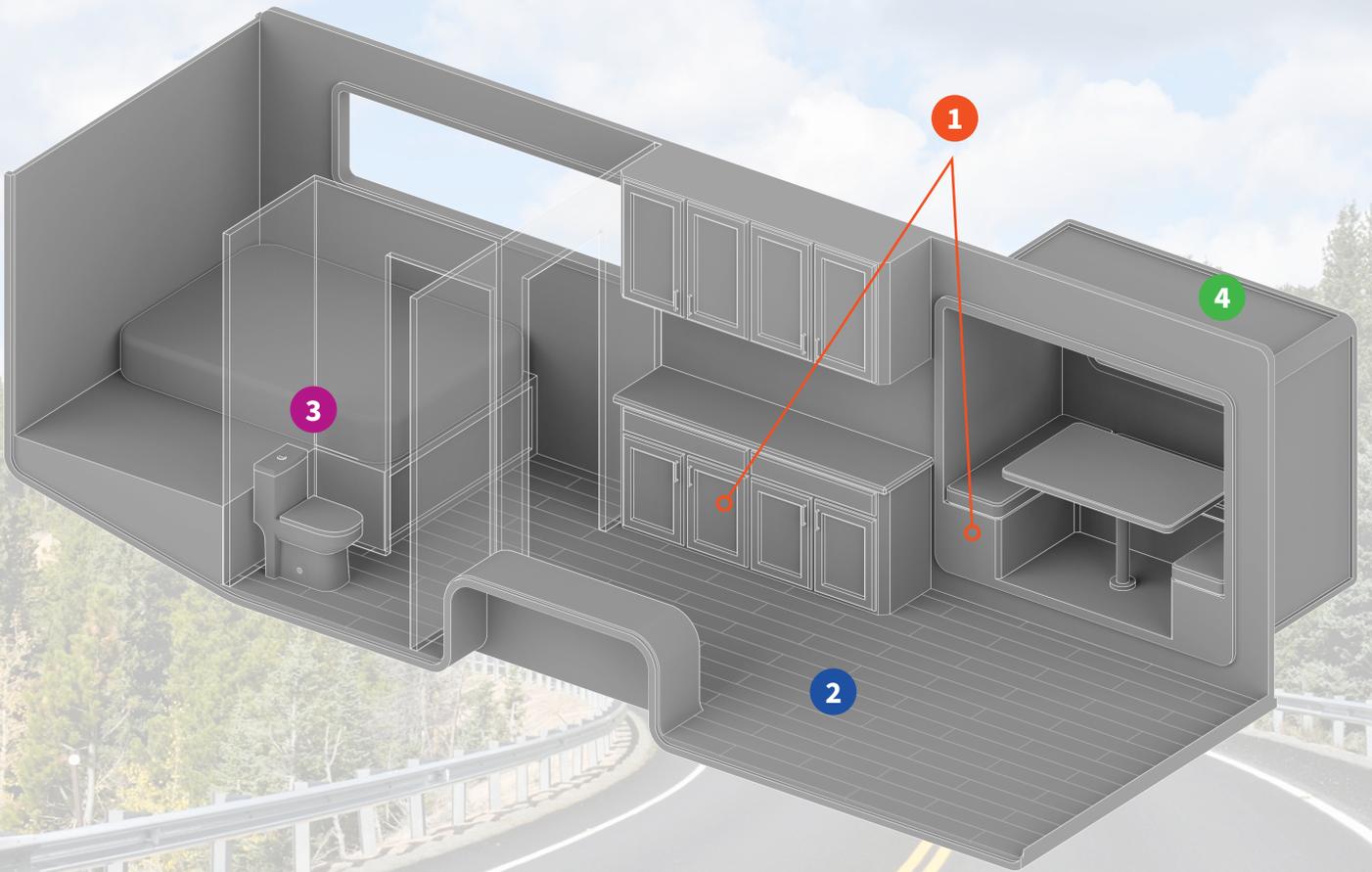
Innovation for Adventure

As recreational vehicle (RV) and caravan travel continues to grow in popularity as a means of adventure, so does the demand for lightweight, durable materials that can withstand life on the road. Once dominated by traditional materials like wood or metal, RV and caravan manufacturers are embracing a switch to composites for their unmatched strength-to-weight ratio, impact strength, and resistance to moisture and rot. Explore how Avient's lightweight, innovative advanced composite material solutions are built for long-lasting adventure.



APPLICATIONS & AVIENT SOLUTIONS

APPLICATION	SOLUTIONS	TRADITIONAL MATERIALS	KEY BENEFITS
1 Cabinetry & Furniture	<ul style="list-style-type: none"> • Hammerhead™ Thermoplastic Composite Panels 	<ul style="list-style-type: none"> • Particle board • Medium-density fiberboard (MDF) • Plywood 	<ul style="list-style-type: none"> • Pre-cut and kitted panels enabling fast assembly • Customizable aesthetics
2 Subfloor & Flooring	<ul style="list-style-type: none"> • Polystrand™ Continuous Fiber Laminates • Hammerhead™ Thermoplastic Composite Panels 	<ul style="list-style-type: none"> • Luan plywood or oriented strand board (OSB) with woven or FRP facesheets 	<ul style="list-style-type: none"> • Lightweight • Moisture and rot resistance • Excellent flexural rigidity • Skid resistant films available
3 Bathrooms (Shower & Vanity)	<ul style="list-style-type: none"> • Polystrand™ Continuous Fiber Laminates • Hammerhead™ Thermoplastic Composite Panels 	<ul style="list-style-type: none"> • Vacuum-formed ABS • Gel-coated fiberglass • Luan plywood with vinyl facesheets 	<ul style="list-style-type: none"> • Crack-resistant surface • Lightweight to enable faster assembly • Moisture and rot resistance • Customizable aesthetics
4 Roof Panels	<ul style="list-style-type: none"> • Polystrand™ Continuous Fiber Laminates • Hammerhead™ Thermoplastic Composite Panels 	<ul style="list-style-type: none"> • Plywood or aluminum with a TPO or EPDM membrane 	<ul style="list-style-type: none"> • Dent and impact resistance • Single, seam free span to eliminate leak points • Enables thermal efficiency with insulative foam core
5 Slide-Out Floors & Underbody	<ul style="list-style-type: none"> • Hammerhead™ Thermoplastic Composite Panels 	<ul style="list-style-type: none"> • Luan plywood with gel-coated FRP facesheets 	<ul style="list-style-type: none"> • Lightweight and fuel efficient • Improves lifecycle of slide mechanism • Excellent stiffness • Moisture resistance
6 Underbody Shields	<ul style="list-style-type: none"> • Polystrand™ Continuous Fiber Laminates 	<ul style="list-style-type: none"> • Corrugated plastic • Woven fiberglass 	<ul style="list-style-type: none"> • Excellent flexural strength • Impact and puncture resistance • Chemical and moisture resistance



- 1 Cabinetry & Furniture
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- 3 Bathrooms (Shower & Vanity)
- 4 Roof Panels
- 5 Slide-out Floors & Underbody
- 6 Underbody Shield

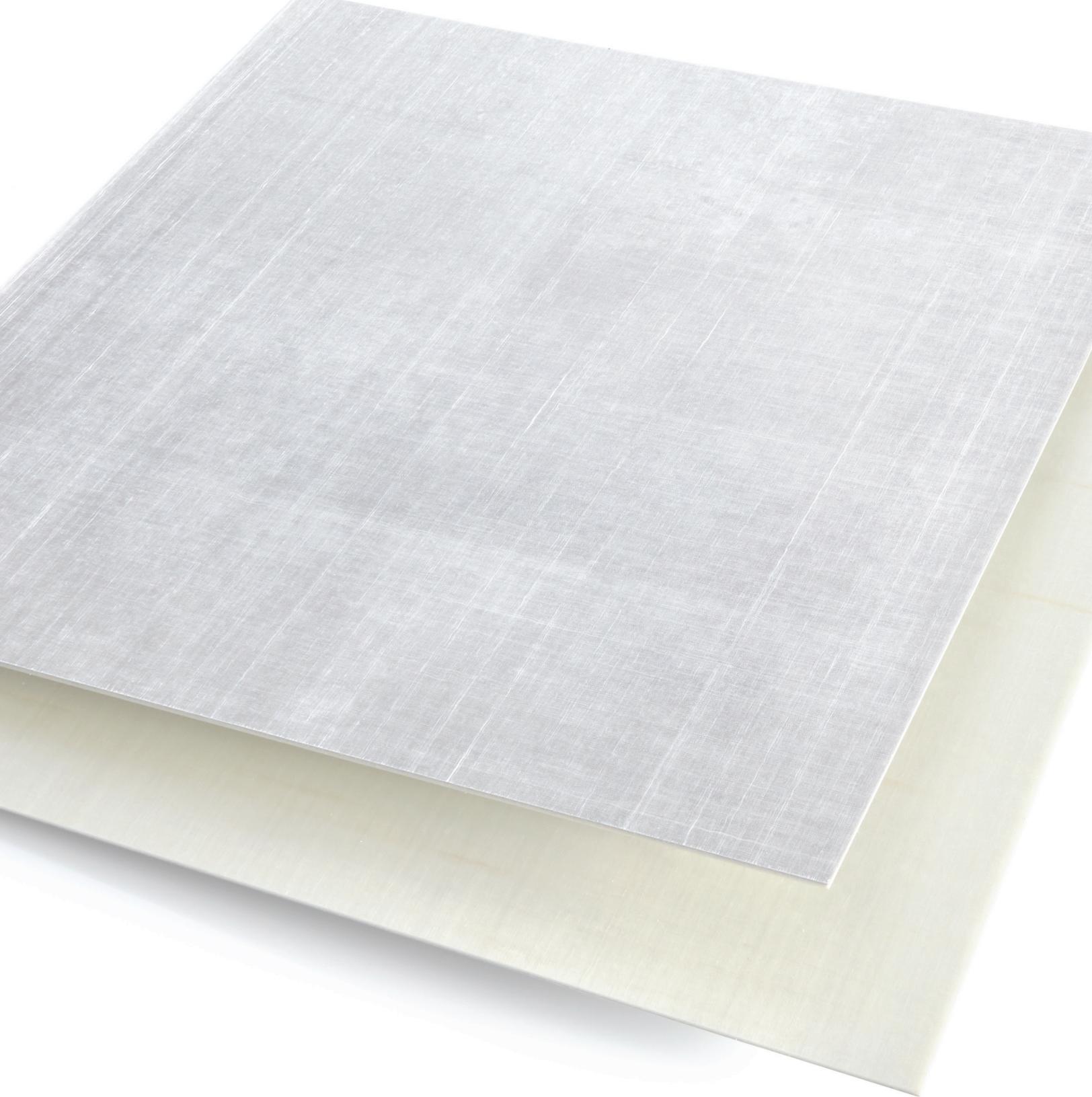
TYPICAL PROPERTIES – POLYSTRAND™ CONTINUOUS FIBER LAMINATES

PRODUCT NAME		POLYSTRAND 5840B			POLYSTRAND 6337			
Resin	-	aPET			PP			
Fiber Content	-	58%			63%			
Orientation	-	0/90	0/90/0	0/90/90/0	0/90	0/90/0	0/90/90/0	
Areal Weight	lb/ft ² gsm	0.18 882	0.27 1323	0.36 1763	0.20 1000	0.31 1500	0.41 2000	
Nominal Thickness	in mm	0.021 0.53	0.032 0.82	0.042 1.07	0.031 0.79	0.045 1.14	0.057 1.45	
Standard	Properties	Unit						
Flexural Properties (0° Testing Orientation)								
ASTM D790	Flexural Modulus	ksi GPa	-	2986 20.6	3065 21.1	-	2250 15.5	2000 13.8
	Flexural Strength	ksi MPa	-	91.1 628	73.1 504	-	46.4 320	44 303
ASTM D3039	Tensile Modulus	ksi GPa	2530 17.4	3160 21.8	2570 17.7	2020 13.9	3070 21.2	2400 16.5
	Tensile Strength	ksi MPa	55.3 381	68.7 474	54.2 374	59.7 412	79.4 547	60.6 418
Flexural Properties (90° Testing Orientation)								
ASTM D790	Flexural Modulus	ksi GPa	-	252 1.7	813 5.6	-	186 1.3	496 3.4
	Flexural Strength	ksi MPa	-	20.0 138	37.0 255	-	9.7 67	20.7 143
ASTM D3039	Tensile Modulus	ksi GPa	2530 17.4	1580 10.9	2440 16.8	2020 13.9	1330 9.2	2210 15.2
	Tensile Strength	ksi MPa	55.3 381	36.9 254	55.6 383	59.7 412	39.6 273	56.4 389
Shear Properties ¹								
ASTM D1002	Shear Strength	lbf	560			170 ²		
Flame Properties								
ASTM E84	Material Surface Burning	Class	Can meet up to Class A					

¹ Shear properties are calculated with a polyurethane adhesive fully cured for 3 days

² Tested with a bonding film





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