

# EXEL BUS PROFILES



## EXELENCE VALUE

Exel Composites has a long history with high-quality, innovative composite solutions to leading bus and coach manufacturers. We offer to the transportation industry engineered solutions that look good, weigh less, last longer, carry more load and/require less maintenance.

The EXEL bus profiles are solving our customer challenges by

- Reducing weight
  - fuel cost savings
- Eliminating panel corrosion and denting
  - lifetime cost savings
- Best surface quality
  - ready for painting/coating
- Largest and most complicated profiles
  - freedom in design innovation
- Thinnest wall structures in composites
- Combining different features in one profile
  - lifetime quality, less components
- Fabrication
  - ready for assembly

## SUPERIOR PRODUCT FEATURES

- Low weight
- High energy efficiency
- Corrosion resistant properties
- Class 1 paintable surface
- Fire Retardancy
- High dimensional stability

Composite is also a sustainable long term solution.

## TYPICAL INTERNAL BODY PARTS

Internal coves, both fixed and movable, heating ducts, ceiling profiles, flooring, side walls, luggage rack parts

## TYPICAL EXTERNAL BODY PARTS

Cant rails, skirts, third panels, luggage door panel, Cant rail extensions

## EXCEL OFFERING

- pultrusion profiles with traditional construction
- high performance optimized pultrusion profile shapes and construction
- wide range of materials:
  - › resins
    - » polyester
    - » polyurethane
    - » epoxy
  - › reinforcements
    - » glassfiber
    - » carbonfiber
    - » natural fiber
- machining options
  - › cutting and mitering
  - › drilling and milling
  - › colour/coating options
  - › through coloured resin systems



**TECHNICAL DATA SHEET**

	UNIT	TEST METHOD	EXEL BUS PROFILES			
General information	Applications		Bus exterior body, interior roof			
	Structure		MUM			
	Resin type		Polyester			
	Reinforcement		E-glassfiber			
	Color		White			
	Surface Finish		Very good	Very good	Plain	
	Sanding		Sandable	Not sandable	Non visual parts (mat structure)	
	Wall thickness	MM		3	3	3
Physical Properties	Specific Gravity	g/cm3		1,8 - 2	1,8 - 2	1,8 - 2
	Fiber Weight Content	Weight - %		45 - 50 %	45 - 50 %	45 - 50 %
	Fiber Volume Content	Volume - %		ca 35 %	ca 35 %	ca 35 %
	Water Absorption	Weight - %	EN ISO 62	2 - 5 %	2 - 5 %	2 - 5 %
Mechanical properties	Tensile modulus LW	Gpa	EN ISO 527-4	17	17	17
	Tensile modulus CW	Gpa	EN ISO 527-4	5	5	5
	Tensile Strength LW	Mpa	EN ISO 527-4	170	170	170
	Tensile Strength CW	Mpa	EN ISO 527-4	30	30	30
	Flexural Strength LW	Mpa	EN ISO 14125	170	170	170
	Flexural Strength CW	Mpa	EN ISO 14125	70	70	30
	Impact Strength, weight drop		DIN 52306	OK : 227g ball - 3m height	OK : 227g ball - 3m height	OK : 227g ball - 3m height
Application Specific Properties	Fire classification		ECE R118	OK	OK	OK
	Thermal elongation LW	10 <sup>-6</sup> K <sup>-1</sup>	Typical property	10	10	10
	Thermal elongation CW	10 <sup>-6</sup> K <sup>-1</sup>	Typical property	30	30	30
	Thermal conductivity	W/mK	Typical property	0.3 - 0.4	0.3 - 0.4	0.3 - 0.4
	Arc Resistance	sec.		na	na	na
	Electric Strength - 1" axial in oil			na	na	na
Permittivity 60HZ	kV/mm		na	na	na	

**LW=** lengthwise

**CW=** cross wise

**MECHANICAL PROPERTIES:** values are minimum values

**DISCLAIMER:** this information is provided as service to our customers and to the best of Exel knowledge, Exel can't be held responsible for it's results. For each new profile a formal specification will be agreed upon order.