

# ULTEM™ R16SG29 SHEET

ULTEM R16SG00 sheet complies with the new pan-European fire safety standard, CEN/TS 45545 (“Fire protection of railway vehicles”) at the highest level (Hazard Level 3) for R1 applications (Requirements for interior components) across all four occupational categories at 3mm. ULTEM R16SG29 sheet delivers excellent impact resistance and chemical resistance for easy cleaning, anti-graffiti performance and long useful life.



Based on polyetherimide (PEI) resin, SABIC’s ULTEM™ R16SG29 sheet features inherent flame retardancy and low smoke emission. This amorphous thermoplastic extruded PEI alloy sheet that offers outstanding high heat resistance, high strength, modulus and broad chemical resistance, can be used for railway interior applications . ULTEM R16SG29 sheet also meets United States Federal Rail Administration (FRA 49 CFR Part 238, Appendix B) flammability and smoke emission characteristics for passenger cars and locomotive cabs. In addition, the product complies with toxicity standard Bombardier SMP 800-C. The material may be thermoformed, pressure formed, twin sheet formed, or used in flat or cold formed applications.

## Pan-European Fire Safety Norm EN 45545

Test	Test norm	Parameter	Requirement definition	R1			R5			R3			Ultem™ R16SG29 Sheet at 3mm
				HL1	HL2	HL3	HL1	HL2	HL3	HL1	HL2	HL3	
Spread of Flame	ISO 5658-2	CFE [kW/m <sup>2</sup> ]	minimum	20	20	20	---	---	---	13	13	13	25,9
Heat Release	ISO 5660-1 (50 kW/m <sup>2</sup> )	MARHE [kW/m <sup>2</sup> ]	maximum	---	90	60	90	90	60	"---	"---	"---	12,95
Smoke Density	ISO 5659-2 (50 kW/m <sup>2</sup> )	Ds, 4 [---]	maximum	600	300	150	600	300	150	600	480	240	70
Smoke Density	ISO 5659-2 (50 kW/m <sup>2</sup> )	VOF4 [min]	maximum	1200	600	300	1200	600	300	1200	960	480	103
Toxicity	ISO 5659-2 (50 kW/m <sup>2</sup> )	CITg [---]	maximum	1.2	0.9	0.75	1.2	0.9	0.75	1.2	0.9	0.75	0,09
<b>Classification</b>												<b>R1 HL3</b>	

**R1** Requirements for Interior Components

**R5** Requirements for Back shell and Base shell of passenger seats

**R3** Lighting

Results are based on tests done by SABIC at the independent laboratories.

## CONTACT US

### SABIC Corporate Headquarters

PO Box 5101  
Riyadh 11422  
Saudi Arabia  
T +966 (0) 1 225 8000  
F +966 (0) 1 225 9000  
E [info@sabic.com](mailto:info@sabic.com)

### AMERICAS

SABIC  
Specialty Film & Sheet  
One Plastics Avenue  
Pittsfield, MA 01201  
USA  
Tol-free 1 800 323 3783 ext. 3  
T +1 412 448 7125  
F +1 888 442 2022  
E [sfscustomerservice@sabic-ip.com](mailto:sfscustomerservice@sabic-ip.com)

### EUROPE

SABIC  
Specialty Film & Sheet  
Plasticslaan 1  
4612 PX  
Bergen op Zoom  
The Netherlands  
T +31 164 293684  
F +31 164 292272  
E [sfs.info@sabic-ip.com](mailto:sfs.info@sabic-ip.com)

### PACIFIC

SABIC  
Specialty Film & Sheet  
1266 Nanjing Road (A)  
16<sup>th</sup> Floor, Plaza 66  
200040 Shanghai  
China  
T +86 21 62881088 ext. 6733  
F +86 21 6288 0818  
E [sfs.info@sabic-ip.com](mailto:sfs.info@sabic-ip.com)

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