AsahiKASEI

XYRON™
mPPE Lightweight Material for Battery Applications

Lightweight Electrification Safety / Comfort

Application Areas

- Automotive industry
  (relay block, structural parts of lithium-ion batteries)
- Energy industry
  (photovoltaic junction box, connectors)
- Other industries (water-related applications)

Solution / Innovation for the Industry

- UL94 V-0 flammability
- Excellent dimensional stability
- Lightweight
- High heat resistance (max. 200 °C)

	Unit	Method	PS/PPE	PA/PPE	PP/PPE
			340Z	AF700	TF701 (under development)
Specific gravity	g/cm³	ISO 1183	1.08	1.09	1.07
Tensile strength	MPa	ISO 527	55	58	53
Tensile elongation	%	ISO 527	14	32	12
Flexural strength	MPa	ISO 178	90	93	77
Flexural modulus	MPa	ISO 178	2,400	2,400	2,270
Charpy impact strength (notched)	kJ/m²	ISO 179	15	8	7
Deflection temperature under load (DTUL)	°C	ISO 75 (0.45 MPa)	110	192	122
Flammability	-	UL 94	V-0	V-0	V-0 (equivalent)

Properties of various XYRON™ grades

XYRON™ (modified polyphenylene ether or mPPE) is an engineering plastic with unique properties due to various possible alloy combinations of PPE with polystyrene (PS), polyamide (PA), polypropylene (PP), polyphenylene sulfide (PPS) or other polymeric materials.

XYRON™ PS/PPE features excellent dimensional stability, electrical properties and is suitable for PV junction boxes and connectors, contributing to downsizing.

XYRON™ PA/PPE has high heat resistance and features flowability characteristics suitable for automotive relay boxes.

XYRON™ PP/PPE has a low density and also electrolyte solvent resistance. This feature makes it suitable for lightweight automotive battery parts.

Key Properties

- Use of Halogen-free flame retardants
  (UL94 V-0 to HB)
- Outstanding heat resistance range (80 – 170° C)
- Low density
- Excellent dimensional stability
  – low mold shrinkage
- Low water absorption
- High resistance to acids and alkalis
- Excellent electrical properties

Creating for Tomorrow

Asahi Kasei Europe GmbH
Fringsstrasse 17
40547 Düsseldorf
Germany

info@asahi-kasei.eu Tel:
+49 211 3399-2000
www.asahi-kasei.eu