

**Solutions for**

# **Engineering applications Automotive – exterior**



 **BOREALIS**

SHAPING *the* FUTURE with PLASTICS

## Solutions for engineering applications Automotive – exterior, under the bonnet



Grade	Filler content [% indic.]	Density [kg/m³]	MFR 230°C/2.16kg [g/10 min]	Stress at yield [N/mm²]	Tensile modulus = flex.mod (f) [MPa]	Impact Charpy notched 23°C [kJ/m²]	Impact Charpy notched -20°C [kJ/m²]	HTD B. (0.45) [°C]	Typical shrinkage* [%]	CLTE [-30, +80°C]	Typical applications	Special properties
<b>Super soft PP</b>												
Daplen™ AK4504	30	1170	20	10	400	35	3.0	55	1.0	107	Acoustic wheel arch liners.	Excellent sound dampening, good chemical resistance.
<b>Scratch resistant</b>												
Daplen™ EE108U	10	990	16	16	1000	35	7	85	0.9	61	Unpainted bumper fascias, rocker panels, body side mouldings.	Excellent scratch and weathering resistance.
Daplen™ EE260AE	20	1070	13	23	2000	34	3	97	0.9	55	Bumper fascia, rocker panels, truck exterior components.	Excellent scratch and weathering resistance.
<b>Glass fibre reinforced</b>												
Xmod™ K65G2	20	1060	7	90	5500	9.5	9	160	0.7	34/105	Climate control blower wheel.	General purpose, low emission.
Xmod™ GB305HP	35	1180	1.8	120	9000	12	10.5	164	0.6	16/110	Air intake manifold, cooling system.	Excellent mechanical properties, copper resistance.
Xmod™ GD301HP	30	1150	4	108	8100	9.5	8.5	152	0.6	18/100	Under bonnet parts, pedalry.	Excellent mechanical balance.
GB311U	30	1120	2	90	6700	13	9	159	0.7	18/95	Air filter cases, lamp housings.	Excellent dimensional stability.
GB205U	20	1040	2	80	4850	10.5	7.5	154	0.8	23/102	Engine covers, fans and shrouds, bumper brackets.	Long-term heat resistance.
<b>Long glass fibre reinforced</b>												
Nepol™ GB303HP	30	1120	2	120	7400	23	26	165	0.5	18/100	Front end, seat structures, door module carrier, instrument panel carrier.	Excellent stiffness/impact balance, very high dimensional stability.
Nepol™ GB402HP	40	1240	2	140	9000	28	32	166	0.4	14/95	Front end, structural parts, module carrier.	Excellent stiffness/impact balance, very high dimensional stability.
Nepol™ GB600HP	60	1480										PP-LGF concentrate, dilution technology.
BJ100HP	n.r	905	90	26	1400	4.5	2.2	88	1.6	100	Compound for direct LFT and PP-LGF dilution.	Low viscosity, excellent fibre -matrix coupling, high heat stability.
<b>TPO compound exterior</b>												
Daplen™ ED230HP	20	1050	10	20	1800	30	4.0	105	0.8	52	Exterior body panels.	Excellent paintability; shrinkage like PC/PBT used for exterior applications, body panels.
Daplen™ KB4436	30	1120	20	16	2100	13	3.5	95	0.6	32	Window frame, body side mouldings, rocker panels.	Very low thermal expansion, excellent scratch resistance.
Daplen™ ED117AE	10	970	9	18	1250	50	8	92	1.0	80	0-gap bumper painted.	Excellent surface hardness and paint adhesion.
Daplen™ EE103AE	10	950	12	19	1400	60	6	92	1	72	0-gap bumper.	Excellent paint adhesion and excellent stiffness.
Daplen™ EF005AE	10	950	25	16	1060	52	6	85	0.8	65	0-gap bumper painted.	Low CLTE, excellent surface appearance, good processing behaviour.
Daplen™ ED213AE	20	1020	6.5	16	1500	40	10	98	0.6	50	Rocker panels, exterior panels.	Excellent paint adhesion, very low thermal expansion.
Daplen™ EE109AE	20	1040	13	16	1400	40	5	92	0.65	50	Painted bumper, rocker panels.	High flowability, very low CLTE.
Daplen™ EE209AE	20	1040	13	16	1400	65	20	93	0.5	43	0-gap bumper painted.	Very low CLTE, excellent impact.
Daplen™ EE340AE	30	1140	12	16	1500	49	4.6	101	0.5	30	Rocker panel, body panels.	High flowability, very low CLTE.

\* Shrinkage values are measured on injection moulded discs, data on other items may vary because of other moulding conditions. These values may not be used for design of tools, pre-trials on similar moulds are strictly recommended.

# Solutions for engineering applications

## Automotive – exterior

### Borealis – a leading, innovative plastics provider

**Borealis** Borealis is a leading, innovative provider of plastics solutions. Its technology shapes daily life products and forms the basis of next generation innovation and creative development in plastics.

With EUR 4 billion revenue in sales and 4,500 employees, Borealis has more than 40 years of experience as a reliable supplier of polyethylene (PE) and polypropylene (PP) products. Borealis today is a partner to its customers manufacturing and developing products such as food packaging, diapers, appliances, automotive parts, distribution pipes for water, gas and sewage, power cables, sporting equipment and medical devices.

Borealis is headquartered in Copenhagen, Denmark with innovation centres, customer service centres, and main production sites in Europe and the Middle East. Borealis has representative offices and operations in Asia, North and South America.

At its heart, the company's four values of Responsible, Respect, Exceed and Nimblicity™, define its way of doing business. For Borealis, success is driven by responsiveness, operational excellence and innovation.

Borstar® is the proprietary process technology supporting differentiated PE and PP products and is a registered trademark of Borealis A/S, Denmark.

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#### Borealis Engineering Applications

Borealis is a leading European supplier to the Automotive and Appliance industries. The total Western European polyolefins market for Engineering Applications is around 950,000 tonnes per annum. The annual growth rate is 3% in appliances and 8% in the automotive area.

Markets outside of Western Europe (Asia, South America and Eastern Europe) are growing at an even faster rate. The Engineering Applications Business Unit supplies one of the most extensive polyolefin product ranges to leading manufacturers in the automotive component, household appliances and white good industries. With 3 production sites located at Schwechat (Austria), Beringen (Belgium) and Monza (Italy) customers are ensured of rapid and reliable deliveries.

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