

Magnesium Automotive Applications

3D demonstrator - Global Parts in serial production



Parts: 23

	Part	Technology	Alloy	Weight	Weight ref./Advantage	Manufacturer	OEM	Model
DRIVETRAIN	Cam cover	Die-casting	AE44	1.2 kg	44% less than Al	GF Casting Solutions	PORSCHE	Panamera
	Crankcase	Die-casting	AJ62	/	25 kg less than all Al version	BMW AG	BMW	630Ci
	Oil sump	Die-casting	AE44	4.6 kg	47% less than Al	GF Casting Solutions	PORSCHE	Panamera
	Transmission housing	Die-casting	AZ91	6.8 kg	35% less than Al	VW AG	VW	Golf
	Engine front cover	Die-casting	AE44	2.6 kg	47% less than Al	GF Casting Solutions	PORSCHE	Panamera, Macan
STRUCTURAL	Front end carrier	Die-casting	AM60	5.9 kg	19% less than Al and Steel/Plastic option	GF Casting Solutions	JLR	Range Rover L405
	Strut brace	Die-casting	AZ91	1.2 kg	28% less than Al	Stihl Magnesium Druckguss	AUDI	A8
	Rear liftgate	Die-casting	AM60	6.8 kg	Piece reduction from 7 to 1; Weight 37% less than previous generation; Allows for total assembly weight reduction of over 10 kg	Meridian Lightweight Technologies	FCA	Chrysler Pacifica
	Engine cradle	Die-casting	AE44	10.9 kg	35% mass reduction compared to Al	Meridian Lightweight Technologies	GM	Corvette Z06
	Window frame	Die-casting	AM50	1.6 kg	35% mass reduction compared to Al	GF Casting Solutions	PORSCHE	Panamera
	Middle console	Die-casting	AZ91	2.0 kg	20% less than comparable products	VW AG	AUDI	A8
	Cross car beam	Die-casting	AM60	5.9 kg	component length over 170 cm	GF Casting Solutions	JAGUAR LAND ROVER	Range Rover L405
	Luggage retainer	Sheet	AZ31	2.2 kg	1,4 kg less than steel	Posco	RENAULT SAMSUNG	SM7
INTERIOR	Steering wheel	Die-casting	AM60	0.5 kg	/	e.g. Takata-Pertri AG	e.g. SMART	multiple
	Steering column	Die-casting	AM50	1.4 kg	0,9 kg less than Al	/	e.g. FORD	e.g. Mercury Mystique
	Steering bracket	Die-casting	AZ91	0.5 kg	0,5 kg less than steel	multiple	multiple	multiple
	GPS holder	Die-casting	AZ91	0.3 kg	/	castwerk	DAIMLER, PSA	S-class
	Gearbox case	Die-casting	AZ91	/	/	castwerk	DAIMLER	several
BIW	Roof	Sheet	AZ31	2.2 kg	Lowest possible weight also against carbon fibre	Posco	PORSCHE	GT3 RS
	Door Panel	Die-casting	AM50	6 kg	/	GF Casting Solutions	ASTON MARTIN	DB9, Vantage V8, Vanquish, Zagato
OTHERS	Reflector	Thixomoulding	AZ91	0.01 kg	50% less (competitive products)	TH Magnesium	FORD	/
	Seat frame	Die-casting	AM50	2.1 kg	10% reduction to steel	GF Casting Solutions	DAIMLER	Mercedes SLK
	Road wheel	Forging	AZ80	rear axle: 11.9 kg	2 kg less than Al	Otto Fuchs	PORSCHE	Carrera GT