Powertrain, Vehicle Class, & Driving Cycle

Power train		BEV
Vehicle class		
ICEV, HEV, FCV: Compact, Mid-Size, SUV BEV, PHEV: FSV A-Class, FSV C-Class		FSV A-Class
Driving cycle		WLTP 3b
Powertrain resize for equivalent performance?		Yes
Lifetime vehicle mileage TM	km	200,000
	miles	124,301
Suggested value for selected power train	km	150,000
	miles	93,226

Biofuel Content

For ICEV-G, HEV, and PHEV only:	
Volumetric ethanol content	0%
Ethanol source	Corn
For ICEV-D only:	
Volumetric biodiesel content	0%
Biodiesel source	Soybeans
Electricity Source (for BEV and PHEV only):	USA

Bill of Materials

BOM-based data entry? No

If yes, only select use phase parameters and then go to BOM Entry spreadsheet.

Baseline Vehicle Mass

1063	Vehicle mass VM_b (in kg)
2344	Vehicle mass VM_b (in lbs)
1063	Default VM_b (in kg)
2344	Default VM_b (in lbs)

Mass of Removed Material

280.72	Removed material ΔM (in kg)
619	Removed material ΔM (in lbs)
280.72	Default body structure (in kg)
619	Default body structure (in lbs)

Composition of Removed Material

kg	% of ΔM	
252.65	90%	Flat carbon steel
28.072	10%	Long & special steel
0	0%	Cast iron and steel
280.72	**100%**	

Secondary Mass savings s

30% of Primary Mass Savings

Material Replacement Coefficients (to mild steel)

		Contender Vehicle 1		Contender Vehicle 2	
AHSS	ks	0.75	kg / kg	0.75	kg / kg
Aluminum	ka	0.67	kg / kg	0.67	kg / kg
FRP	kc	0.55	kg / kg	0.55	kg / kg
Magnesium	km	0.50	kg / kg	0.50	kg / kg

Composition of replacing material

	Contender Vehicle 1		Contender Vehicle 2	
	% of ΔM	kg	% of ΔM	kg
Flat AHSS	90%	189.5	0%	0.0
Long & special AHSS	10%	21.1	0%	0.0
Cast AHSS	0%	0.0	0%	0.0
Rolled aluminum	0%	0.0	70%	131.7
Extruded aluminum	0%	0.0	30%	56.4
Cast aluminum	0%	0.0	0%	0.0
Rolled magnesium	0%	0.0	0%	0.0
Cast magnesium	0%	0.0	0%	0.0
SMC	0%	0.0	0%	0.0
GFRP	0%	0.0	0%	0.0
CFRP	0%	0.0	0%	0.0
Totals	**100%**	**210.5**	**100%**	**188.1**

Primary Mass Savings

Contender Vehicle 1		Contender Vehicle 2	
70.2	**kg**	**92.6**	**kg**

Scenario Recorder

Final Material

Flat carb
Long & spec
Cast iron a
Fla
Long & specia
Cas
Rolled al
Extruded al
Cast al
Rolled mag
Cast mag
Rubber (excludi
Stainle

Vehicle m

Powertrain, Vehicle Class, & Driving Cycle		
Power train	BEV	**Biofuel Content**

Powertrain, Vehicle Class, & Driving Cycle		
Power train	BEV	**Biofuel Content**

Powertrain, Vehicle Class, & Driving Cycle		
Power train	BEV	**Biofuel Content**