

Technical Report

Bill of Material Report

Report generated in BoMGen powered by CompoSIDE

Document:	Demo BOM Report
Product Name:	Curved Panel
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Circulation:	

Issues and Amendments:

Issue	Issue Log	Issued by	Approved by	Issue Date
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Disclaimer:

1. This document is intended for estimation purposes only and is not to be used for materials order.
2. This document should be used as a guide to tendering only. It remains the responsibility of the builder to satisfy himself as to the final selection of materials and the quantities required.
3. Some of the laminates are based on limited information and previous experience.
4. The laminates will be subject to change as the design evolves.
5. The "Weight Estimate" is exclusive of "wastage factors" (i.e. weights as designed) but includes "usage factor" (i.e. core resin consumption etc.).
6. The "Bill of Materials (BoM)" estimate includes "wastage and usage factors"
7. Product BoM factors are specified in the Appendix to this document or if specific for component in the document section outlining component BoM.
8. It is the builder responsibility to verify the appropriateness of the "wastage factors" and "usage factors" applied.

1. Introduction

Product:	Curved Panel
Product Type:	
Keywords:	Bill of Materials

2. Product Summary

2.1 BoM - Summary

		Summary	
Type	Material / Component	Total Areal Quantity ¹ [m ²]	Total Weight Quantity ¹ [kg]
	Total		33.92
Cores	10 mm T10.100	6.35	9.32
Plies	UC-SM200-EP-VIN	68.16	24.6

Core Weights include Resin Weight due to core resin consumption.
 Areal and weight quantities include wastage and usage factors.
 For core sheet size please refer to section: "Material Details"

Resin Weight Summary (included in ply weight)

Material	Resin Type	Total Resin Weight ¹ [kg]
Epoxy W	Epoxy	2.42
Epoxy (EP)	Epoxy	10.81

Included in plies and cores listed in table above.

2.2 Weight Estimate

#	Component	As Designed Weight ² [kg]
1	Curved Panel FEA	28.38

3. Components Summary

3.1 Curved Panel FEA (incl. Sub-components details)

Quantity: 1 (Including parent component quantity)

3.1.1 Curved Panel FEA Unique Material List (Total quantities)

#	Material Name	Type	As Designed Area ² [m ²]	Total Area ¹ [m ²]	As Designed Weight ² [kg]	Total Weight ¹ [kg]	Total Resin Weight ¹ [kg]	Total Fibre Weight ¹ [kg]
1	UC-SM200-EP-PP	Ply	3.53	3.89	1.06	1.18	0	0
2	UC-SM200-EP-VIN	Ply	60.67	68.16	19.91	24.6	10.81	13.63
3	10 mm T10.100	Core	5.5	6.35	8.47	9.32	2.42	0

Core Weights include Resin Weight due to core resin consumption.

Curved Panel FEA Subcomponents:

#	Name	Type	Unit Area / Unit Length [m ²] / [mm]	Unit Subcomponent Weight (Factored) ² [kg]	Unit Quantity	Quantity (including component quantity)
1	Shell_001	Surface Element	0 / -	0	1	1
2	Shell_001	Surface Element	5.5 / -	27.61	1	1
3	Capping	Beam	- / 1948.48	1.06	1	1

3.1.2 Curved Panel FEA Stacking

3.1.2.1 Shell_001 StackUp (Surface Element)

Area: 0 [m²] Component Area Percentage: 0 [%]

Material		α	Area / Cov.	Comment
		[°]	[m ²] / [%]	
1	UC-SM200-EP-VIN	0	0 / 100	
2	UC-SM200-EP-VIN	-30	0 / 100	
3	UC-SM200-EP-VIN	30	0 / 100	
4	UC-SM200-EP-VIN	60	0 / 100	
5	UC-SM200-EP-VIN	-60	0 / 100	
6	UC-SM200-EP-VIN	45	0 / 16.43	
7	UC-SM200-EP-VIN	-45	0 / 16.43	
8	10 mm T10.100	90	0 / 100	
9	UC-SM200-EP-VIN	-45	0 / 16.43	
10	UC-SM200-EP-VIN	45	0 / 16.43	
11	UC-SM200-EP-VIN	-60	0 / 100	
12	UC-SM200-EP-VIN	60	0 / 100	
13	UC-SM200-EP-VIN	30	0 / 100	
14	UC-SM200-EP-VIN	-30	0 / 100	
15	UC-SM200-EP-VIN	0	0 / 100	

3.1.2.2 Shell_001 StackUp (Surface Element)

Area: 5.5 [m²] Component Area Percentage: 100 [%]

Material		α	Area / Cov.	Comment
		[°]	[m ²] / [%]	
1	UC-SM200-EP-VIN	0	5.5 / 100	
2	UC-SM200-EP-VIN	-30	5.5 / 100	
3	UC-SM200-EP-VIN	30	5.5 / 100	
4	UC-SM200-EP-VIN	60	5.5 / 100	
5	UC-SM200-EP-VIN	-60	5.5 / 100	
6	UC-SM200-EP-VIN	45	0.904 / 16.43	
7	UC-SM200-EP-VIN	-45	0.904 / 16.43	
8	10 mm T10.100	90	5.5 / 100	
9	UC-SM200-EP-VIN	-45	0.904 / 16.43	
10	UC-SM200-EP-VIN	45	0.904 / 16.43	
11	UC-SM200-EP-VIN	-60	5.5 / 100	
12	UC-SM200-EP-VIN	60	5.5 / 100	
13	UC-SM200-EP-VIN	30	5.5 / 100	
14	UC-SM200-EP-VIN	-30	5.5 / 100	
15	UC-SM200-EP-VIN	0	5.5 / 100	

3.1.2.3 Capping StackUp (Beam)

Subcomponent Quantity: 1, Length: **1948.48** [mm]

Material		α	Width / Leng. / Cov.	Comment	Element_001
		[°]	[mm] / [mm] / [%]		ShearWeb
1 - 20	20 x UC-SM200-EP-PP	0	89 / 1948.48 / 100		<input checked="" type="checkbox"/>
Element Quantity			[-]		1
Single Element Thickness			[mm]		3.97
Average Lap Distance			[mm]		0
Bonding Tape Radius (Radius used for bonding plies width calculation)			[mm]		0

4. BoM Material Details

Cores

Name	t_{pp} [mm]	ρ [kg/m ³]	A_m [g/m ²]	Sheet Width Sheet Length [mm]	Core Preprocessing Type	Paper/Film Type	Cell Shape / Grade
10 mm T10.100	10	100	1000	1005 2440	Plain (PL)	-	- / -

Plies

Name	t_{pp} [mm]	A_m [g/m ²]	FVF	RWF	Material Type	Reinforcement Type	Matrix Type	Processing Type
UC-SM200-EP-VIN	0.198	306.647	0.56	0.348	UD (Stitched)	SMC	Epoxy	Infusion

Formulated Products

Name	ρ [kg/m ³]
Epoxy (EP)	1250
Epoxy W	1180

Material Description

Type	Name	Description
Cores	10 mm T10.100	
Plies	UC-SM200-EP-VIN	
Formulated Products	Epoxy (EP)	Generic properties
	Epoxy W	Epoxy Wet

5. Appendix

5.1 BoM Settings

Wastage factors

Property	Value	Unit
Wastage Scale Factor	1	
Finished Part Offcut	5	%
Cores Offcut	10	%
Secondary Bonding Adhesive Wastage	5	%

Infusion	
Fabric Offcut [%]	7
Resin Application Wastage [%]	10

Included in Usage and Wastage Quantities accordingly.

Usage factors

Property	Value	Unit
Usage Scale Factor	1	
Secondary Bonding Adhesive Usage	3	%

Infusion	
General Resin Usage [%]	7

Included in Usage and Wastage Quantities accordingly.

Overlap Factors (Wastage & Usage)

Overlap Factors (Percentage of ply total area)

Infusion	
UD Overlap [%]	3.5

Included in Usage and Wastage Quantities accordingly.

Core Resin Consumption Factors

Core Resin Consumption varies and depends on Core Preprocessing (i.e. Core Cut Type) and Laminate Processing Type (i.e. Infusion).

Defined according to CompoSIDE Internal Knowledge.

5.2 Tables Header Notes

¹ Including Wastage & Usage Factors

² Including Usage Factors

³ Laminates are compliant with the ISO 12215 Category A and ABS guidelines