

Technical Report

Bill of Material Report

Report generated in BoMGen powered by CompoSIDE

Document:	Full Report
Product Name:	Webinar 1 Product
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Circulation:	

Issues and Amendments:

Issue	Issue Log	Issued by	Approved by	Issue Date
P1	P1 issue	Aleksandra Dziekonska	Aleksandra Dziekonska	17/03/2015 15:07

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:	Webinar 1 Product
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 Material Cost ¹ [€]
	Total		7.5	212.53 €
Cores	15 mm AC150	0.58	1.26	11.36 €
Plies	UC-HEC400-E-PP	7.85	4.74	133.36 €
	XC-400-E-PP	2.26	1.51	67.80 €

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 4. "Material Details"

2.2 BoM - Cost

		Component (Material Cost) [€]
Type	Material / Component	Webinar model
	Total	212.53 €
Cores	15 mm AC150	11.36 €
Plies	UC-HEC400-E-PP	133.36 €
	XC-400-E-PP	67.80 €

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 4. "Material Details"

2.3 Weight Estimate

#	Component	As Designed Weight ² [kg]
1	Webinar model	6.75

3. Components Summary

3.1 Webinar model (incl. Sub-components details)

Quantity: 1 (Including parent component quantity)

3.1.1 Webinar model 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]	Total Price [€]	Price per Kg [€]
1	UC-HEC400-E-PP	Ply	7.12	7.85	4.25	4.74	0	0	133.36 €	28.16 €
2	XC-400-E-PP	Ply	2.05	2.26	1.35	1.51	0	0	67.80 €	45.05 €
3	15 mm AC150	Core	0.5	0.58	1.15	1.26	0	0	11.36 €	9.00 €

Core Weights include Resin Weight due to core resin consumption.

Webinar model Subcomponents:

#	Name	Type	Unit Area / Unit Length [m ²] / [mm]	Unit Subcomponent Weight (Factored) ² [kg]	Unit Quantity	Quantity (including component quantity)
1	Beam_001	Beam	- / 1000	6.73	1	1

3.1.2 Webinar model Stacking

3.1.2.1 Beam_001 StackUp (Beam)

Subcomponent Quantity: 1, Length: 1000 [mm]

Material	α	Width / Leng. / Cov.	Comment	Rectangle_001_001	Rectangle_001_002	Rectangle_001_003	Rectangle_001_004
	[°]	[mm] / [mm] / [%]		Reinforcement	Reinforcement	Reinforcement	Reinforcement
1 - 35 x UC-HEC400-E-PP	0	100 / 1000 / 100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36 - 2 x XC-400-E-PP	45	250 / 1000 / 100		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38 - 15 mm AC150	0	250 / 1000 / 100		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39 - 2 x XC-400-E-	45	250 / 1000 / 100		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Element Quantity	[-]			1	1	1	1
Single Element Thickness	[mm]			13.9	16.8	13.9	16.8
Average Lap Distance	[mm]			0	0	0	0
Bonding Tape Radius (Radius used for bonding plies width calculation)	[mm]			0	0	0	0

Material	α	Width / Leng. / Cov.	Comment	Rectangle_001_001	Rectangle_001_002	Rectangle_001_003	Rectangle_001_004
	[°]	[mm] / [mm] / [%]		Reinforcement	Reinforcement	Reinforcement	Reinforcement
40	PP						
41 - 75	35 x UC- HEC400- E-PP	0 100 / 1000 / 100		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
76 - 77	2 x XC- 400-E- PP	45 250 / 1000 / 100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
78	15 mm AC150	0 250 / 1000 / 100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
79 - 80	2 x XC- 400-E- PP	45 250 / 1000 / 100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Element Quantity		[-]		1	1	1	1
Single Element Thickness		[mm]		13.9	16.8	13.9	16.8
Average Lap Distance		[mm]		0	0	0	0
Bonding Tape Radius (Radius used for bonding plies width calculation)		[mm]		0	0	0	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	Price per m ² €
15 mm AC150	15	150	2250		Plain (PL)	-	- / -	

Plies

Name	t_{pp} [mm]	A_m [g/m ²]	FVF	RWF	Material Type	Reinforcement Type	Matrix Type	Processing Type	Price per m ² €
UC-HEC400-E-PP	0.397	603	0.56	0.337	UD	HEC	Epoxy	Prepreg	
XC-400-E-PP	0.45	666	0.52	0.399	Biaxials	HSC	Epoxy	Prepreg	

Material Description

Type	Name	Description
Cores	15 mm AC150	PET foam
Plies	UC-HEC400- E-PP	PlyGen Material, Process:PrePreg Reinforcement:HEC mass:400 g/sqm FVF:0.56 FWF:0.65 Matrix:Epoxy PP Type:UD in directionality 1/0
	XC-400-E-PP	F: Generic 12K fibre Mod 230GPa, Strength >3.4 M: Generic Epoxy

5. Appendix

5.1 BoM Settings

Wastage factors

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

	Prepreg
Fabric Offcut [%]	5
Resin Application Wastage [%]	0

Included in Usage and Wastage Quantities accordingly.

Usage factors

Property	Value	Unit
Usage Scale Factor	1	

	Prepreg
General Resin Usage [%]	0
Resin Bleed-Out [%]	1

Included in Usage and Wastage Quantities accordingly.

Overlap Factors (Wastage & Usage)

Overlap Factors (Percentage of ply total area)

	Prepreg
Multiaxial Overlap [%]	2.5
UD Overlap [%]	1.75

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 STRUCTeam 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