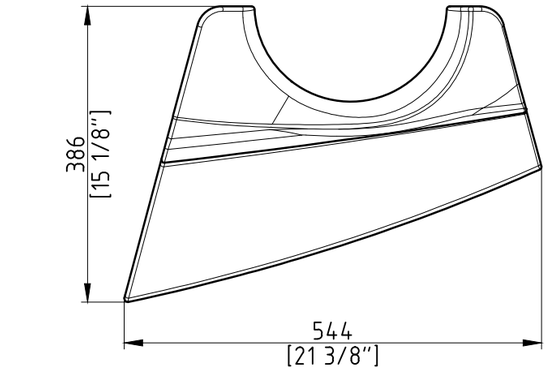
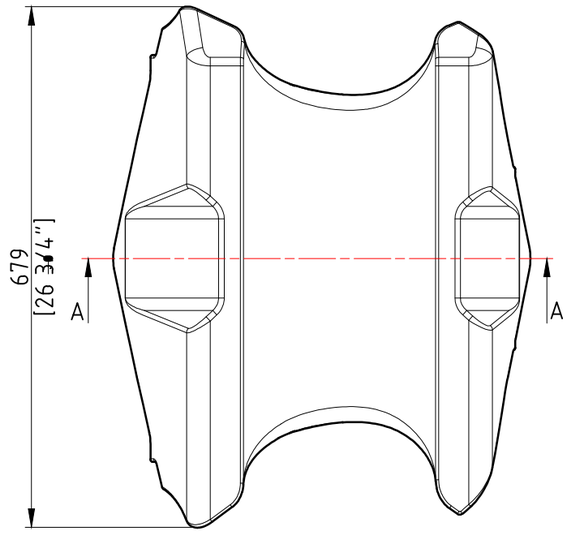
REV. NO.	REVISION NOTE	DATE	NAME	CHECK

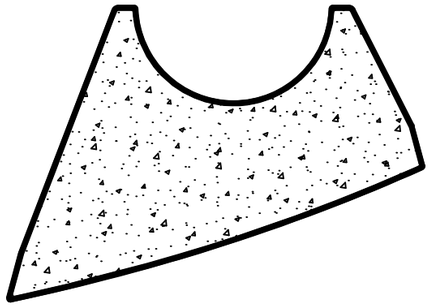
Side view



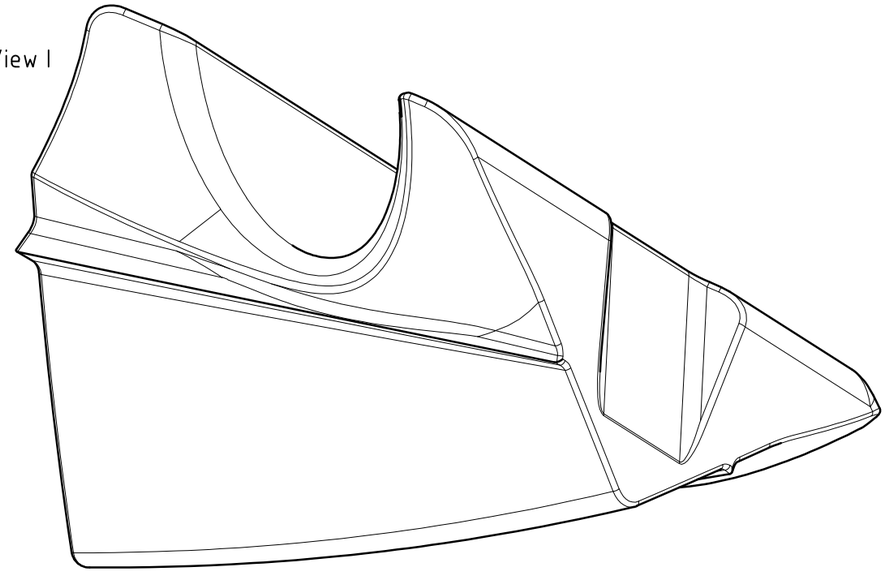
Top view



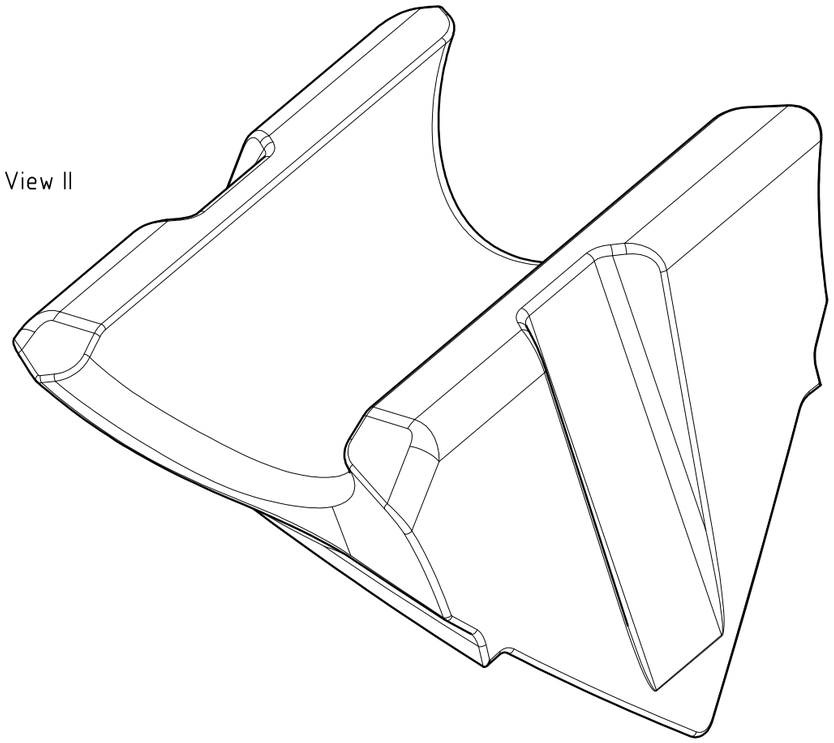
Section A-A



3D View I



3D View II



Area		0.9 m2
	Ply	BASIC area
	1	GC (type II)
	2	M450/PP180/M450
	3	EBX 800/300
	4	PVC foam 125
	5	EBX 800/300
	6	M450/PP180/M450
	7	GC (type II)
EU	Total dry fibre:	9,690 g/m2
	Total with resin:	18,905 g/m2
	Thickness:	35.0 mm
USA	Total w/dry:	285.8 oz/yd2
	Total w/resin:	557.6 oz/yd2
	Thickness:	1.38 in

J&J COMPOSITE CALCULATOR V7

Project name:	F450_COCKPIT CABINETS	J&J DESIGN We Create Winners.
Lamination:	Vacuum bag Simple surface	
Part weight:	17.2 kg	37.9 lb
Part area:	0.9 m^2	1.1 yd^2
Average:	19.1 kg/m^2	35.3 lb/yd^2
Nominal fibre content by mass according to EN ISO 12215		

Material:	Fibre orientation:	Resin uptake [g]:	Resin uptake [lb]:	Material description:
GC (type II)	SPRY application	0	0.00	GelCoat
M450/PP180/M450	Random/Foam/Random	2420	5.34	Rovicore_RTM (two layers CSM with PP flow media)
EBX 800/300	[+45/-45 deg]	1500	3.31	Double biaxial + matt
PVC foam 125	Solid	1375	3.03	PVC foam
POLYESTER (resin)	0			Resin
POLYESTER (hardener)	0			Hardener

INSTALLED material:	Weight:		Area:		Marg. [%]:
	[kg]	[lb]	[m^2]	[yd^2]	
GC (type II)	1.9	4.1	1.8	2.2	0
M450/PP180/M450	2.0	4.5	1.9	2.3	5
EBX 800/300	2.1	4.6	1.9	2.3	5
PVC foam 125	2.9	6.4	0.9	1.1	0
POLYESTER (resin)	8.1	17.9			0
POLYESTER (hardener)	0.17	0.37			0
Total:	17.2 kg	37.9 lb	6.5 m2	7.8 yd2	

NEEDED material:	Weight:		Area:		Marg. [%]:
	[kg]	[lb]	[m^2]	[yd^2]	
GC (type II)	2.06	4.54	1.98	2.37	10
M450/PP180/M450	2.25	4.95	2.08	2.49	10
EBX 800/300	2.29	5.04	2.08	2.49	10
PVC foam 125	3.22	7.09	0.99	1.18	10
POLYESTER (resin)	8.9	19.7			10
POLYESTER (hardener)	0.18	0.40			10
Total:	18.9 kg	41.7 lb	7.1 m2	8.5 yd2	

Important:

- during the lamination process environment temperature and humidity needs to be checked and recorded with temperature and humidity logger and comply with technical data sheets from suppliers
- resin/hardener ratio needs to be correct for ambient temperature
- all built in materials MUST have CE or similar certification
- before secondary bonding or lamination surface must be sanded with GRIT 60 paper
- Core must be sealed when hole is cut in to sandwich laminate or hole must be drilled to single skin area

	Drawing name:	Scale:	Date:	Drawn by:	Page:
	Bow thruster detail lam.	1:8	13.5.2016	E.Bugrova	1 / 1
	Subject: F-450				Page format: A3
File name: F450-00-00-ST-55-T00-ST-STD-3EU-A-Laminazione dettaglio elica di prua-Bow thruster detail lamination.dwg					Approved: J&J

Drawing location: H:\WORKING FILES\F450\04 Engineering\41 Composite\4.5 Lamination_archive\6 Small parts\3.5 BOW THRUSTER\DETAIL\WORKING\F450-00-00-ST-55-T00-ST-STD-3EU-A-Laminazione dettaglio elica di prua-Bow thruster detail .