

Materials List for:

Magnet Assisted Composite Manufacturing: A Flexible New Technique for Achieving High Consolidation Pressure in Vacuum Bag/Lay-Up Processes

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Materials

Name	Company	Catalog Number	Comments
Plain weave glass fiber	Hexcel	HexForce 3733	The type of fibers can be substituted with any type of fabrics
Randomly oriented chopped strand glass fiber	Fiberglast	248	
TenCate EX-1522/IM7	Tencate		it is a plain weave carbon/epoxy prepreg
PRO-SET INF-114 Infusion Epoxy	Composite Envisions	1758	The type of resin can be substituted with any type of resin suitable for wet lay-up vacuum bag process
PRO-SET INF-211 Medium Infusion Hardener	Composite Envisions	1760	
EPON 862	Hexion Inc.		
EPIKURE Curing Agent 3300	Hexion Inc.		
NdFeB, N52-2.54 × 2.54 × 1.27 cm3	K&J Magnetics, Inc.	BX0X08-N52	Magnets can be substituted with any type depending on the required pressure and application
OLFA rotary cutter	Fibre Glast	1706-A	
Tacky tape	De-Comp Composites	D413Y	
Polyester tape	De-Comp Composites	D574A	
Squeegees	Fibre Glast	62-A	Any type of squeegees can be used
Roller	De-Comp Composites	D205	Any type of rollers can be used
PTFE-Coated fiberglass fabric sheets	McMaster-Carr Supply Company	8577K81	
PTFE release agent dry lubricant	Miller-Stephenson	MS122AD	
Perforated release film	Fibre Glast	1787-C	
Breather cloth	De-Comp Composites		
Vacuum bag film	Rock West Composite	WRIGHTLON 7400	
Aluminum twist lock vacuum valve	De-Comp Composites	D401	
Vacuum pump	Best Value Vacs	BVVR51	
Flexible silicone-rubber heat sheets, adhesive backing	McMaster-Carr Supply Company	35765K429	
400-series steel plate, 6.35 mm-thick			The lay-up is prepared on this plate
steel plate, 4.76 mm-thick			The magnets are attached to this plate
Aluminum sheet, 0.3-mm thick			

Lab stirrer mixer	Caframo		
Laboratory weigh scale			
AccuPyc II 1340 automatic gas pycnometer	Micromeritics Instrument Corporation	134/00000/00	
Specific gravity cup, 83.2 mL	Gardco	EW-38000-12	
Acrylic cold mounting resin	Struers	LevoCit	
Grinder/polisher	Struers	LaboSystem	
Porcelain crucibles, 30 mL	United Scientific Supplies	JCT030	
Plastic Cups, 12 Oz, clear			It is used as epoxy mixing cups