

Technical Report

TR-18004/A1

Activity:
Blade Material Passport

Application:
LM 37.3 P2

Optional:

Blade Material Passport

LM 37.3 P2

Wind Turbine Blade Manufacturer: LM Wind Power (formerly LM Glasfiber)



Headquarters

LM Wind Power group
Global claim management
Jupitervej 6
6000 Kolding
Denmark

Service Fax:
Purchasing Fax:
Accounting Fax:

Tel +45 79 84 00 00
Fax +45 79 84 00 01
E-mail:
info@lmwindpower.com
+45 79 84 00 80
+45 79 84 00 40
+45 79 84 00 07

Further information may be obtained to our website: www.lmwindpower.com



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I. Introduction

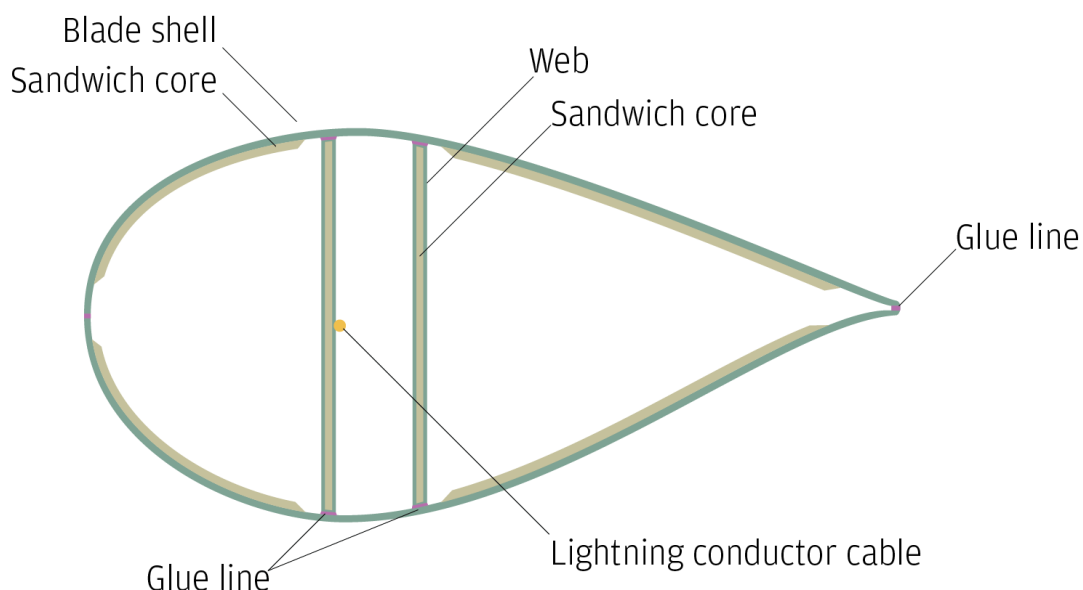
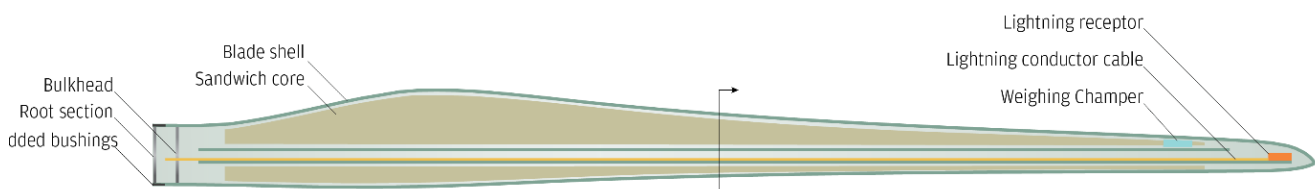
This Blade Material Passport provides information to support end-of-life treatment of wind turbine blades. The document is intended for use by those who are active in disposal of end-of-life blades.

In addition to the information given in this document, please note that the blades contain detailed confidential information that is sensitive to the manufacturer and which you will get insight into in connection with the decommissioning of the blades. We kindly request you: do not disclose any information not already stated in this document to any third party unless such third party has a need to know the information in connection with the decommissioning of the blades.

II. Blade Dimensions (General Data)

Blade mass	5,590 kg +/- 3%
Blade length	37,250 mm
Root diameter	1,800 mm
Max chord	3,097 mm
Max laminate thickness	110 mm

III. Blade Design: Components



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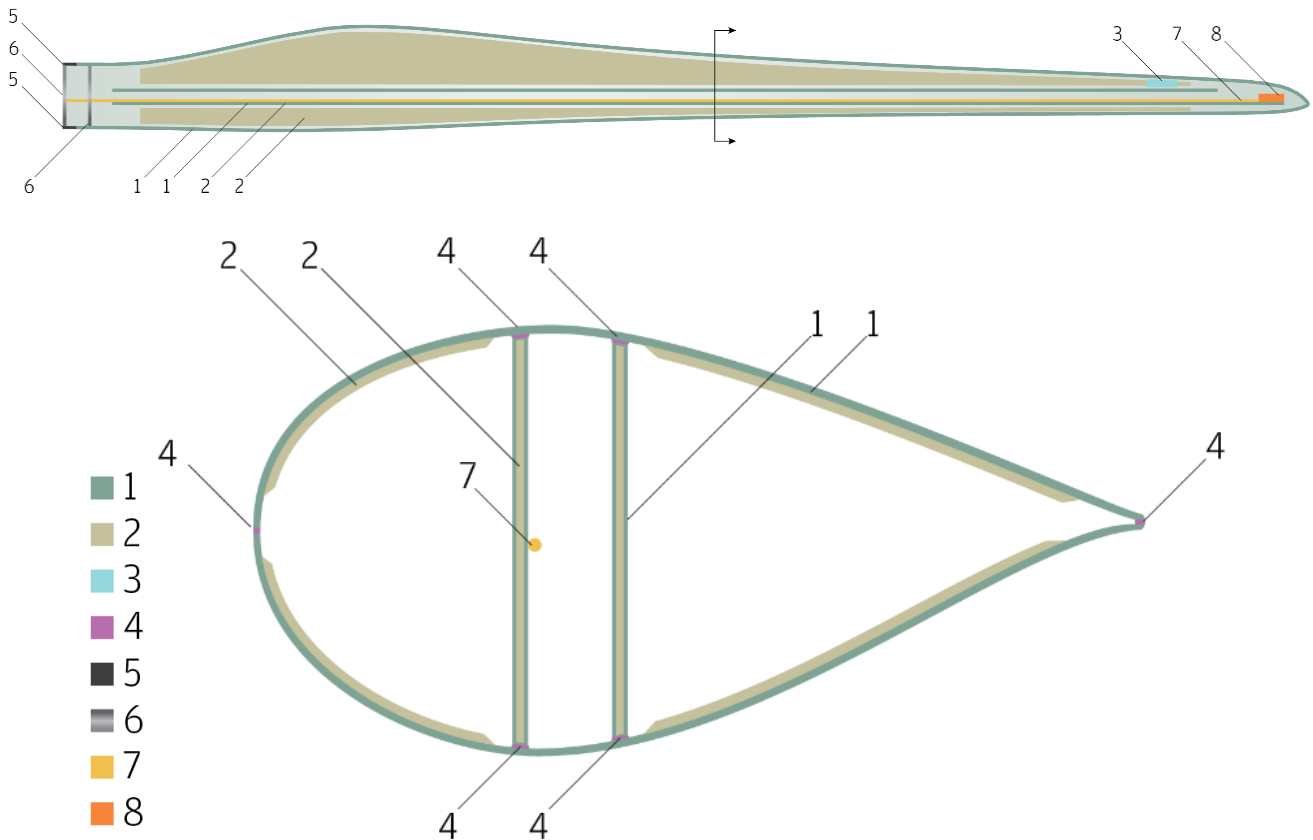
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IV. Blade Materials



	Material	Blade part	Mass
1	Glass fiber	Blade shell and webs	~3,020 kg
1	Polyester resin	Blade shell and webs	~1,540 kg
2	Balsa wood	Blade shell and webs sandwich core	~265 kg
3	PVC foam	Bulkheads, ribs, wedges	~0 kg
4	Vinylester adhesive	Glue line	~300 kg
5	Chromium molybdenum steel alloy	Embedded bushings	~155 kg
5	Pultruded glass	Blade root butterfly wedges	~50 kg
6	Stainless steel	Root flange	~20 kg
7	Copper	Lightning conductor cable	~40 kg
8	Alloyed metal	Lightning toroid and receptors	~5 kg
9	Polyester gelcoat	Outer blade surface	~150 kg
10	Polyurethane	Balancing material, aero add-ons	blade-specific
11	R-PET foam	Root bulkhead	~3.76 kg



V. REACH Declaration

LM Wind Power blades do not contain hazardous substances. We hereby certify that rotor blades of LM Wind Power do not contain Substances of Very High Concern (SVHC) according to Regulation (EU) No 1907/2006 Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) of the European Parliament.

VI. Blade Recycling

Today, around 85-90% of wind turbines' total mass can be recycled and have established recycling practices in place. But the legacy blades are challenging to recycle due to the composite materials used in their production. While various technologies exist to recycle the composite materials in blades, they are not yet mature enough, nor widely available at industrial scale and/or cost competitive. Blade recycling, therefore, is not just a wind industry challenge, but a cross industry challenge. Industry-wide partnerships to establish the recycling value chains are the way forward.

Visit LM Wind Power's home page for detailed information.

<https://www.lmwindpower.com/en/sustainability/blade-recycling>

