

## Analytical Review of Material Criteria as Supporting Factors in Horizontal Axis Wind Turbines: Effect to Structural Responses

<b>Publons ID</b>	43983513
<b>Wos ID</b>	WOS:000618060900020
<b>Doi</b>	10.1016/j.prostr.2020.07.021
<b>Title</b>	Analytical Review of Material Criteria as Supporting Factors in Horizontal Axis Wind Turbines: Effect to Structural Responses
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<b>Publish Date</b>	2020
<b>Journal Name</b>	6TH INTERNATIONAL E-CONFERENCE ON INDUSTRIAL, MECHANICAL, ELECTRICAL AND CHEMICAL ENGINEERING (ICIMECE 2020) SPECIAL SYMPOSIUM - INTEGRITY OF MECHANICAL STRUCTURE AND MATERIAL
<b>Citation</b>	7
<b>Abstract</b>	<p>The potential of wind energy sources in Indonesia is quite large, with a potential of 60 GW. This fact shows that wind energy has great potential to be developed into a major energy source in Indonesia, especially in the development of wind energy power plants. The growth of wind energy power plants is in line with government regulations, where the government is targeting that in 2050 new renewable energy can supply national energy by 25%. This research, a literature review has been carried out on the supporting components of the turbine structure that affect wind turbine performance. The turbine performance is influenced by several things, including turbine materials, turbine rotors, and turbine structure. Turbine structures that need to be considered include generators, batteries, and gearboxes. Horizontal type wind turbines are recommended using washing machine motors and treadmill motors generators. Materials recommended for wind turbine components include Aluminum Alloy, natural Composite, Copper-Aluminum-Nickel, Copper-Zinc-Aluminum, and Nickel-Titanium. Then the factor of damage to the turbine installation in the coastal area is dominated by ship collisions. Some factors that must be considered are velocity, type of vessel, collision direction, and Collision angle. (C) 2020 The Authors. Published by Elsevier B.V.</p>
<b>Publish Type</b>	Book in series
<b>Publish Year</b>	2020
<b>Page Begin</b>	155
<b>Page End</b>	162
<b>Issn</b>	2452-3216
<b>Eissn</b>	
<b>Url</b>	<a href="https://www.webofscience.com/wos/woscc/full-record/WOS:000618060900020">https://www.webofscience.com/wos/woscc/full-record/WOS:000618060900020</a>
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