

# KAJIAN ASPEK AERODINAMIKA JEMBATAN BENTANG PANJANG DI INDONESIA

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A bridge is a structure that is made to connect cut off road because or the flow of rivers, irrigation channels and valleys. Based on the length, there are three types (if bridges namely short span bridges with a length of less than than 100 m tong., medium span bridges with a length of 100 m to 150 m and long span bridges with a length of more than 150 m. In long span bridges, there are several phenomena that generally occur and can affect bridge stability, such as flutter, buffeting, vortex induced vibration and galloping. One method that can be used to test bridges for these phenomena is the wind tunnel test. The cost to do the wind tunnel test is not cheap. There are not many rules that can determine whether a bridge requires ibc wind tunnel test. One of the rules is the Design Rules for Aerodynamic Effects Bridges BD 49/01. In this study, the bridge will be analyzed based on the Design Rules for Aerodynamic Effects on Bridges BD 49/01 by reviewing geometric constraints and parameters related to the phenomena of flutter, vortex induced vibration and galloping. The results of this analysis will be compared with the results of the wind tunnel test conducted on the bridge, that will be displayed in tables and graphs. Based on the comparison between the results of the analysis and the results of the wind tunnel test, it can be concluded that the Design Rules for Aerodynamic Effects on Bridges BD 49/01 can be used as an initial guideline to determine whether a bridge requires a wind tunnel test.

Keywords: flutter, vortex induced vibration, galloping, wind tunnel test