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PRASERT SRINGAM : A STUDY ON WATER RESISTANCE OF BITUMINOUS MIXTURE MODIFIED WITH GLISONITE RESIN. THESIS ADVISOR : PROF. DIREK LAWANSIRI, Ph.D, CO THESIS ADVISOR PIPHUN KUHIRUN, M.Eng, 142 pp. ISBN 974-584-692-9

The reaseach emphasises on the effect of water on mechanical properties of asphalt concrete with must be used by asphalt cement grade 60–70 and improved the quality of with by adding Glisonite Resin, a hydrocarbon additive, as designed by Marshall's Method. The testing of the mixture's physical properties, i.e., the stability, flow, tensile strength, and compressive strength was carried out in laboratory focussing on it's water resistance according to water of different temperatures and pH. conditions.

The result indicated that the additive had good effect on the properties of asphalt concrete. Namely, the penetration value was lower where as the viscosity values was higher which directly resulted in the increasing stability of the asphalt concrete by 30 percent at 8–12 percent quantity by weight of asphalt cement. Besides, the strength index, the tensile strength ratio of asphalt concrete, either in different pH conditions or temperature were higher and beyond the acceptable standard.

In Conclusion, the Glisonite Resin added to asphalt concrete can improve water resistance of asphalt concrete with regard to the characteristies of durability and moisture susceptibility.