

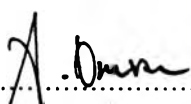
**Effect of CaCO₃ on the Mechanical and Rheological Properties of
Benzoxazine Resin and Polybenzoxazine**

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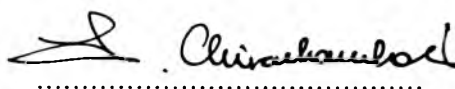
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บทคัดย่อ

นิมลรัตน์ สุประภากร : ผลกระทบของแคลเซียมคาร์บอเนตต่อสมบัติทางกลและการไหลของเบนซอกซาซีน เรซิน และโพลีเบนซอกซาซีน (Effect of CaCO₃ on the Mechanical and Rheological Properties of Benzoxazine Resin and Polybenzoxazine), อ. ที่ปรึกษา : ศ. ดร. ฮัตสึโอะ อิชิดะ (Prof. Hatsuo Ishida), และ ผศ. ดร. สัจจิรา อ่างวรารกรณ์, 29 หน้า, ISBN 974-633-597-9

งานวิจัยนี้ศึกษาสมบัติการทนต่อแรงดึง แรงกด และแรงกระทบของเบนซอกซาซีน เมื่อเติมแต่งด้วยแคลเซียมคาร์บอเนตในปริมาณ 0-30% โดยน้ำหนัก รวมทั้งศึกษาถึงบทบาทของขนาดอนุภาคของสารเติมแต่ง และผลของผิวสัมผัสระหว่างสารเติมแต่งและเบนซอกซาซีนต่อสมบัติเหล่านี้ ผลการวิจัยที่ใช้สนับสนุนการทดสอบสมบัติคงที่เชิงกล คือการทดสอบสมบัติเชิงกลที่ว่าด้วยการเคลื่อนไหว นอกจากนี้ ยังได้มีการเปรียบเทียบค่าความเหนียวระหว่างเบนซอกซาซีนโมโนเมอร์บริสุทธิ์และเบนซอกซาซีนโมโนเมอร์ที่มีโอลิโกเมอร์ผสมอยู่ 18% กับโนโวแลครีนด้วย

ABSTRACT

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KEY WORD : BENZOXAZINE / MECHANICAL PROPERTIES / RHEOLOGICAL
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Tensile, flexural, and impact behaviors of CaCO₃-filled benzoxazine were studied in the 0-30% wt. filler contents. The role of the particle size of the filler and the effect of the interface on these properties were also investigated. Dynamic mechanical measurement was carried out to support the static mechanical testing. Moreover, the viscosity measurements of pure benzoxazine monomer and the monomer with 18% oligomer were performed to compare with a novolac resin, as well.

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