Kajian perilaku sambungan kunci geser baja mutu sedang dengan perekat akibat beban vertikal = Study of medium grade steel shearkey with epoxy subjected to vertical load

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Abstrak

ABSTRAK
Jembatan beton segmental membutuhkan kunci geser - kunci geser. Penelitian ini membahas perilaku sambungan kunci geser logam baja bermutu sedang dengan perekat. Pemodelan dilakukan menggunakan software ANSYS dengan dua tipe pemodelan yaitu, pemodelan 1 isotropic elasticity dan pemodelan 2 multilinear isotropic hardening. Pada pemodelan 2 menggunakan dua cara yaitu force control dan displacement control dengan meninjau beton terkekang dan beton tidak terkekang. Hasil pemodelan 1 menunjukkan semakin tinggi mutu beton dan baja, semakin besar gaya prategang dan semakin banyak jumlah shearkey maka semakin meningkat beban potensi retak dan semakin menurun jika semakin tebal. Pemodelan 2 meninjau hubungan tegangan dan perpindahan
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ABSTRACT
Precast concrete bridge requires shear keys. This study discusses the behavior of metal shear key, namely medium-grade steel with epoxy. This study is conducted by utilizing ANSYS software with two types of modeling; isotropic elasticity (type 1) and multilinear isotropic hardening (type 2). The numerical resolution on type 2 is conducted with two approach; force control and displacement control approach by considering confined and unconfined concrete. On type 1 modeling results indicate if the quality of concrete and steel higher, the greater of prestressing force and the greater number of shear keys will increase potential cracking of concrete, which decreases if the thickness of epoxy used increases. The modeling type 2 reviews the correlation between stress with a displacement.