

KUAT LEKAT BETON SUBSTRAT YANG TERPAPAR AIR LAUT DENGAN BETON BARU MENGGUNAKAN SIKACIM *BONDING ADHESIVE* BERDASARKAN METODE *SLANT SHEAR TEST*

Nama Mahasiswa : Putri Hidayati

Nim : 4103230034

Dosen Pembimbing : Dedi Enda, S.T., M.T

ABSTRAK

Perbaikan dan rehabilitasi struktur beton sering dilakukan dengan menyambungkan beton substrat dengan beton baru. Kualitas sambungan dipengaruhi oleh kuat lekat pada bidang *interface*, terutama pada beton substrat yang terpapar lingkungan agresif seperti air laut. Penelitian ini dilakukan untuk menganalisis pengaruh media perawatan beton substrat menggunakan air sumur bor Politeknik Negeri Bengkalis dan air laut Bengkalis, serta pengaruh penggunaan SikaCim *Bonding Adhesive* terhadap kuat lekat sambungan beton. Pengujian dilakukan menggunakan metode *Slant Shear Test* yang mengacu pada ASTM C882/C882M. Benda uji berupa kubus berukuran $15 \times 15 \times 30$ cm dengan bidang sambungan miring 30° , sedangkan beton kontrol menggunakan silinder berukuran 15×30 cm. Hasil pengujian menunjukkan bahwa beton substrat yang dirawat menggunakan air laut menghasilkan nilai kuat lekat yang lebih rendah dibandingkan dengan air sumur bor. Penggunaan SikaCim *Bonding Adhesive* mampu meningkatkan nilai kuat lekat pada kedua media perawatan. Nilai kuat lekat tertinggi diperoleh pada variasi B2 Sika sebesar 2,82 MPa, sedangkan nilai terendah diperoleh pada variasi BL1 Non Sika sebesar 0,73 MPa. Hasil penelitian menunjukkan bahwa media perawatan memengaruhi kuat lekat sambungan, sedangkan penggunaan SikaCim *Bonding Adhesive* meningkatkan kuat lekat antara beton substrat dan beton baru.

Kata kunci: Beton Substrat, Beton baru, Kuat lekat, *Slant Shear Test*, SikaCim *Bonding Adhesive*.

***BOND STRENGTH OF SEAWATER-EXPOSED CONCRETE
SUBSTRATE TO NEW CONCRETE USING SIKACIM BONDING
ADHESIVE BASED ON THE SLANT SHEAR TEST METHOD***

Name : Putri Hidayati
Student ID : 4103230034
Supervisor : Dedi Enda, S.T., M.T.

ABSTRACT

Concrete repair and rehabilitation are commonly carried out by bonding concrete substrate with new concrete. The quality of the connection is influenced by the bond strength at the interface, particularly when the concrete substrate is exposed to aggressive environments such as seawater. This study was conducted to analyze the effect of curing media for the concrete substrate using bore well water from Bengkalis State Polytechnic and Bengkalis seawater, as well as the effect of SikaCim Bonding Adhesive on the bond strength of concrete joints. The testing was conducted using the Slant Shear Test method in accordance with ASTM C882/C882M. The specimens consisted of 15 × 15 × 30 cm concrete cubes with a 30° inclined interface, while the control concrete specimens were cylinders measuring 15 × 30 cm. The results showed that concrete substrates cured in seawater produced lower bond strength values than those cured in bore well water. The use of SikaCim Bonding Adhesive increased the bond strength under both curing media. The highest bond strength was obtained from the B2 Sika variation at 2.82 MPa, while the lowest was obtained from the BL1 Non-Sika variation at 0.73 MPa. The results indicate that the curing medium affects the bond strength of the joint, while the use of SikaCim Bonding Adhesive improves the bond strength between the concrete substrate and new concrete.

Keywords: *Concrete substrate, New concrete, Bond strength, Slant Shear Test, SikaCim Bonding Adhesive.*