

EXECUTIVE SUMMARY

ENGINEERING SESSION – DIVISI TRANSFORMASI, ENGINEERING DAN QUALITY

Sebagai bagian dari Program Transformasi Perusahaan untuk meningkatkan *technical excellence*, efisiensi pemanfaatan material, dan penguatan budaya *knowledge sharing*, WIKA Beton menjalankan inisiatif strategis berupa Program Perusahaan: Komposisi Beton *Advance*. Program ini berfokus pada peningkatan performa beton pracetak melalui optimasi material, pemanfaatan *cementitious* yang lebih efisien, serta peningkatan durabilitas dan konsistensi mutu produksi.

As part of the Company Transformation Program to enhance technical excellence, material utilization efficiency, and strengthen the culture of knowledge sharing, WIKA Beton implements a strategic initiative known as the Corporate Program: Advanced Concrete Composition. This program focuses on improving the performance of precast concrete through material optimization, more efficient use of cementitious components, as well as enhancing durability and consistency of production quality.

Bagian dari upaya berkelanjutan Divisi Transformasi, *Engineering* dan *Quality* untuk meningkatkan keunggulan teknis serta memperkuat budaya *knowledge sharing* di lingkungan WIKA Beton, perusahaan telah menetapkan program penyelenggaraan *Engineering Session* sebanyak empat kali dalam satu tahun. Setiap sesi didesain untuk memadukan keahlian internal dengan wawasan eksternal melalui komposisi tiga pemateri internal dan satu pemateri eksternal.

As part of the continuous efforts of the Transformation, Engineering and Quality Division to improve technical excellence and reinforce knowledge sharing within WIKA Beton, the company has established a program of conducting Engineering Sessions four times a year. Each session is designed to combine internal expertise with external insights through a composition of three internal speakers and one external expert.

Engineering Session ke-15 dilaksanakan pada tanggal 18 Desember 2024 (akhir Triwulan IV Tahun 2024) menghadirkan **Dr. Asdam Tambusay, S.T., M.T.**, dosen dan *Head of Smart and Resilient Infrastructure Laboratory*, Institut Teknologi Sepuluh Nopember sebagai narasumber eksternal. Beliau menyampaikan materi dengan tema “**Teknologi Beton untuk Industri Pracetak: *Step-wise Procedures of***

The 15th Engineering Session was held on December 18, 2024 (end of the Fourth Quarter of 2024), featuring **Dr. Asdam Tambusay, S.T., M.T.**, lecturer and Head of the Smart and Resilient Infrastructure Laboratory at Institut Teknologi Sepuluh Nopember as the external speaker. He delivered material on the theme “**Concrete Technology for the Precast Industry: Step-wise Procedures of Concrete Mix Design and Virtual Testing.**” The session

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Concrete Mix Design and Virtual Testing.” Kegiatan ini diikuti oleh 325 pegawai tetap dan 7 pegawai kontrak/*non-register* di bidang keteknikan.

Materi yang disampaikan mencakup:

1. Mengenali faktor-faktor kunci dalam perancangan campuran beton
2. Memahami pengaruh faktor-faktor kunci dalam desain campuran terhadap sifat beton *fresh* dan *hardened*
3. Pengujian laboratorium virtual
4. Evaluasi penerimaan kuat tekan beton

Dari data laporan Divisi Produksi *Precast*, evaluasi penggunaan cementitious menunjukkan peningkatan efisiensi dari bulan Januari 2025 sampai dengan Oktober 2025. Pencapaian ini menjadi bukti bahwa penyelenggaraan Engineering Session berkontribusi positif terhadap upaya optimasi proses dan pemanfaatan material di WIKA Beton.

was attended by 325 permanent employees and 7 contract/non-registered employees in the engineering field.

The materials presented included:

1. Identifying key factors in concrete mix design
2. Understanding the influence of key design factors on the properties of fresh and hardened concrete
3. Virtual laboratory testing
4. Evaluation of concrete compressive strength acceptance

Based on reports from the Precast Production Division, the evaluation of cementitious usage showed improved efficiency from January 2025 to October 2025. This achievement demonstrates that the implementation of Engineering Sessions contributes positively to the optimization of processes and material utilization at WIKA Beton.

Flyer Acara Seminar Engineering Session <i>Flyer for the Engineering Session Seminar</i>	Dokumentasi Acara Engineering Session <i>Documentation of the Engineering Session Seminar</i>
	

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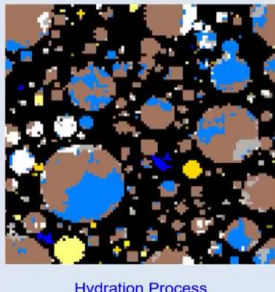
Penyampaian Materi Engineering Session *Presentation of the Engineering Session*



Current Research Areas

Concrete Materials and Structures

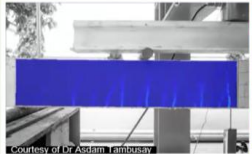
Concrete Materials



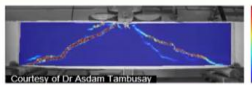
Hydration Process

- Low-carbon concrete
- Bendable concrete
- Fibre Reinforced Concrete

Damage Assessment



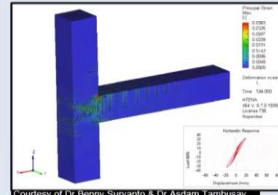
Propagation of flexural cracks



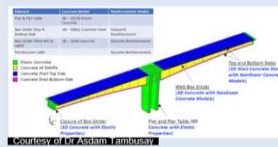
Shear cracks progression

- Low-cost digital image correlation
- Dynamic crack detection using drone

Concrete Structures



Local structural components



Full-scale bridge modelling

Our research focuses on the engagement of technological advancement to corroborate experimental findings



Evaluasi Dampak Impact Evaluation

EFFISIENSI CEMENTITIOUS

