Pengantar Teknologi Biokomposit

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Suhasman

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Penulis
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Kata Pengantar

PUJI syukur ke hadirat Tuhan Yang Maha Esa, karena atas rahmat dan karunia-Nya buku *Pengantar Teknologi Biokomposit* ini dapat disusun dan diselesaikan dengan baik. Buku ini disiapkan sebagai upaya untuk memberikan pemahaman awal yang komprehensif mengenai teknologi biokomposit, yang saat ini berkembang pesat seiring meningkatnya kebutuhan akan material ramah lingkungan, berkelanjutan, dan berbasis sumber daya terbarukan.

Perkembangan teknologi material telah mendorong pemanfaatan bahan-bahan lignoselulosa, limbah pertanian, serta biomaterial lainnya sebagai alternatif pengganti material konvensional. Biokomposit hadir sebagai solusi yang menggabungkan keunggulan material alam dengan teknologi rekayasa modern, sehingga menghasilkan produk yang tidak hanya memiliki sifat mekanik dan fungsional yang baik, tetapi juga lebih ramah terhadap lingkungan. Oleh karena itu, pemahaman mengenai konsep dasar, karakteristik bahan penyusun, serta proses pembuatan biokomposit menjadi hal yang penting, khususnya bagi mahasiswa, peneliti, dan praktisi di bidang teknologi hasil hutan, teknik material, dan bidang terkait lainnya.

Buku ini disusun dengan tujuan sebagai buku pengantar yang membahas konsep dasar teknologi biokomposit secara sistematis dan mudah dipahami. Pembahasan dimulai dari pengertian dan klasifikasi biokomposit, bahan baku yang digunakan, hingga prinsip dasar pembuatan dan karakterisasi produk biokomposit. Selanjutnya, buku ini mengulas berbagai ragam produk biokomposit yang telah banyak dikembangkan dan diaplikasikan, antara lain papan partikel, papan serat, *wood plastic composite*, papan semen, serta produk biokomposit lainnya. Setiap jenis produk dibahas secara ringkas namun mencakup aspek bahan penyusun, proses manufaktur, sifat fisis dan mekanis, serta potensi pemanfaatannya.

Dalam penyusunannya, buku ini berusaha menggabungkan konsep teoritis dengan contoh penerapan praktis yang relevan dengan kondisi di Indonesia, khususnya terkait ketersediaan bahan baku lokal dan peluang pengembangan industri berbasis biokomposit. Dengan demikian, diharapkan buku ini tidak hanya menjadi referensi akademik, tetapi juga dapat memberikan wawasan aplikatif bagi pengembangan inovasi dan teknologi di bidang material berkelanjutan.

Semoga buku *Pengantar Teknologi Biokomposit* ini dapat memberikan manfaat, menambah wawasan, serta menjadi referensi awal yang berguna bagi pembaca dalam memahami dan mengembangkan teknologi biokomposit di Indonesia. Semoga buku ini dapat berkontribusi dalam mendorong

pemanfaatan sumber daya alam secara bijak dan berkelanjutan.

Makassar, Desember 2025

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