SOFTWARE APPLICATION TO COMPARE BETWEEN BRITISH STANDARD (BS 5950-1:2000) AND EUROCODE 3 (EN 1993-1-1:2005) IN DESIGNING THE RESTRAINED STEEL BEAM

PRODUCT DESCRIPTION

• This software application will utilize the design formulas and produce result which can be compared between the two design codes.
• Various functions are available to resolve the calculation within a few seconds based on data requirements such as different loading types, loading data, beam length and steel grades.
• The results can be compared to choose the structural elements that are most economical and safe to use.

COMMERCIAL POTENTIAL

• Potentially to be the best medium for construction industry in Malaysia to clearly understand and more exposed about the benefit in designing steel structure by using Eurocodes compared to the British Standard.
• Academicians can use this software application as teaching aid or reference in teaching steel structure design.

RESULT

<table>
<thead>
<tr>
<th>Language</th>
<th>Product 1</th>
<th>Product 2</th>
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<tbody>
<tr>
<td>English</td>
<td>English</td>
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</tbody>
</table>

LOADING

- Combinations and Checklist PL & UL
- Single, Combinations

SECTION CLASSIFICATION

- Details
- Details
- Details

PROCESS FLOW

1. Raw materials: Recycled copper - epoxy resin - hardener
2. The recycled copper filler was added and the mixture was stirred using mechanical stirrer until the mixture was homogenous.
3. The mixture was then cast into the mould and the composite was cured using oven at 100°C for 1 hour.
4. Bars with dimensions 0.2 x 0.2 x 0.2 cm and 0.3 x 0.3 x 0.3 cm were prepared for testing.

ADVANTAGES

- Low material cost: 77% reduction in cost as compared to copper mould, 29% reduction in cost as compared to aluminium mould.
- Manufacturers are able to fabricate the E-RECOP mould in house- simple fabrication process.
- Lighter weight: 87% reduction in weight as compared to copper mould, 59% reduction in weight as compared to aluminium mould.

COMMERICAL POTENTIAL

• Thermofoming mould materials for small medium thermofoming industries.

ACKNOWLEDGEMENT

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