



**MINISTRY OF DEVELOPMENT
NEGARA BRUNEI DARUSSALAM**

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GUIDANCE DOCUMENT

TIMBER

DESIGN CRITERIA FOR TIMBER TRUSSES

**FIRST EDITION
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**Construction Planning and Research Unit
Ministry of Development
Old Airport, Jalan Berakas
Bandar Seri Begawan BB 3510
Negara Brunei Darussalam**

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Design Criteria for Timber Trusses

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FOREWORD

The Technical Committee on Timber Standards under the authority of the Standards Committee, Ministry of Development, prepared this Guidance Document.

This Guidance Document is limited to the requirements for establishing the minimum dead, live, wind, and load combinations used in the general design of timber trusses.

The definitions are not exhaustive but provide a general knowledge of timber in common usage.

The Committee would like to acknowledge participation, contribution and support by the following institutions, government bodies and private companies:

Twinwood Kilndry Treatment Industries

Universiti Brunei Darussalam

Brunei Shell Petroleum Co Sdn. Bhd.

Public Works Department

This Guidance Document is dedicated to the memory of the late Almarhum Haji Zulkifli bin Sulaiman

COMMITTEE REPRESENTATION

The Technical Committee on Timber was entrusted by the Ministry of Development with the task of preparing this Brunei Darussalam Guidance Document. The Technical Committee members are as follows:-

- | | | |
|-----|---|--|
| 1. | Dr. Tan Kha Sheng
(Chairman) | Universiti Brunei Darussalam |
| 2. | Hj. Zulkifli Hj. Sulaiman
(Co-Chair) | Brunei Shell Petroleum Co. Sdn. Bhd. |
| 3. | Rosalind Khan
(Secretariat) | Construction Planning and Research Unit, Ministry of Development |
| 4. | Hamiddon Hj. Md. Said | Public Works Department, Ministry of Development |
| 5. | Dr. Yong Chee Tuan | Universiti Brunei Darussalam |
| 6. | Nicholas Leong Soon Kong | Brunei Shell Petroleum Co. Sdn. Bhd. |
| 7. | Hj. Suhaimi Hj. Julaihi | Brunei Shell Petroleum Co. Sdn. Bhd. |
| 8. | Mohd. Shahril Hj. Maidin | Brunei Shell Petroleum Co. Sdn. Bhd. |
| 9. | Hj. Mohd. Faisal Hj. Nordin | Forestry Department, Ministry of Industry and Primary Resources |
| 10. | Adnan Hj. Bagol | Sultan Saiful Rizal Technical College |
| 11. | Peter Tang | HAHD Engineering |
| 12. | David Price | Arkitek Ibrahim |
| 13. | Raymond Wong | Twinwood Kilndry Treatment Industries |
| 14. | Christopher Thien | Juru Ukur Bahan SPL |

1 General

1.1 Scope

This Guidance Document defines the requirements for establishing the minimum dead, live, wind, and load combinations used in the general design of timber trusses. References are taken from AS 1170.1-1989 & AS1170.2-1989 (Australia Standard Loading Code).

1.2 Definitions

<i>Term</i>	<i>Descriptions</i>
Action	Causes of stresses or deformations in the structure.
Action effect	Internal forces due to actions.
Awnings	A roof-like structure, usually of limited extent, projecting from a wall of a building.
Canopy	A roof adjacent to or attached to a building, generally not enclosed by walls.
Cladding	The material which forms the external surface over the framing of an element of a building or structure.
Dead load	The load determined in accordance with this Document, imposed by components of the building or structure including the forces imposed by all walls, floors, roofs, suspended ceilings, permanent partitions, permanently fixed machinery and other permanent construction (including reticulated services).
Design load (action)	The appropriate combination of loads (actions) and load factors as specified in this Document.
Dominant opening	An opening in the external surface of an enclosed building which directly influences the average internal pressure in response to external pressures at that particular opening. Dominant openings need not be large.
Drag	Force acting in the direction of the wind stream.
Enclosed buildings	Buildings which have full perimeter walls (nominally sealed) from floor to roof level.
Escarpment	A long (steeply sloping) face between nominally level lower and upper plains with average slopes of not greater than 5%.
Force coefficient	A coefficient which when multiplied by the incident wind pressure and an appropriate area, gives the force in a specific direction.
Free roof	A roof (of any type) with no enclosing walls underneath, e.g., free standing carport.
Freestanding walls	Walls which are exposed to wind on both sides, with no roof attached, e.g., fences.
Free stream dynamic pressure	The theoretically computed incident pressure of a uniform air stream of known density $q = 0.0006 \times V^2$ (at ambient temperature and barometric pressure).
Gable roof	A ridged roof with end walls triangular from lowest points up to the ridge.
Hip roof	A traditional roof with sloping ridges rising up from external corners (valleys rise up from any return corners).