

Circular Letter No.: 2024.209

Issue Date: 21 June 2024

Application: BEAM Plus NB Version 2.0

Effective Date: 2 October 2024

## **MW 4 Design for Durability and Resilience**

- 1. The Technical Circular Letter hereby announces an update to the credit content for **MW 4 Design** for **Durability and Resilience** under BEAM Plus NB v2.0.
- 2. The aim of the update is to clarify the submittal requirements for MW 4a, MW 4b and MW 4c on providing the appraisal reports at Provisional Assessment (PA) stage.
- 3. The requirements given in Section 4.1 of the BEAM Plus NB v2.0 Manual (2023 Edition) are hereby updated with the enclosures in Annex A of this Technical Circular Letter:
  - Pages Annex A-1 to A-5 shall replace all contents in Section 4.1 on MW 4 specified in Pages 207 to 210 of the Manual.
- 4. <u>Approved PA projects</u>: For projects that have already completed PA and have certain assessment approach approved, the Applicant may opt to adopt the same assessment criteria for FA or voluntarily comply with this Technical Circular Letter. For the avoidance of doubt, the Applicant shall provide PA evidence (e.g., extract of the PA report, documents submitted for assessment in PA, etc.) in subsequent assessments to support the intention of using the same assessment methodology as in PA.

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Ir Victor Cheung Chairperson of Standards Sub-committee

Annex A: Updated Credit Content for Section 4.1 under BEAM Plus NB v2.0

4	Materials and Waste	4.1	Use of Materials			
		MW 4	Design for Durability and Resilience			
	Extent of Application	All buildings				
	Objective	Encourag elements optimisati	Encourage material selection and adequate protection of exposed building elements to minimise the frequency of replacement and maximise materials optimisation.			
	Credits Attainable	1 + 2 BOI	NUS			
	Credit Requirement	(a) Build	ling Material Selection Appraisal			
		1 creative the d items	1 credit for appraisal report demonstrating a proactive approach to evaluate the durability of the building materials with at least 3 of the relevant listed items.			
		(b) Prote	ecting Vulnerable Parts of the Building from Damage			
		1 BONUS credit for providing suitable protective measures, or designed features or solutions to prevent damage to vulnerable parts.				
		(c) Protecting Exposed Parts of the Building from Material Degradation				
		1 BONUS credit for incorporating appropriate design and specification measures to limit material degradation due to environmental factors.				
	Assessment	(a) Build	ling Components Selection Appraisal			
		<ol> <li>Conduct an appraisal report demonstrating a proactive approach to explain the details in building material selection with suitable durability that minimises the necessary refurbishment or renewal and prevents excessive material use.</li> </ol>				
		2. T	he report should cover at least 3 items of the following:			
		2	.1. Timber doorsets (fire rated doors)			
		2	2.2. Panel wall for partitions			
		2	.3. Cement products (for architectural uses)			
		2	.4. Tile adhesives			
		2	.5. Ceramic tiles (floor tiles and wall tiles)			
		2.6. Aluminium windows				
		2	8 Drainage uPVC pipe and fittings			
		2.9. Other items may be proposed at discretion of the applicant				

 The building material shall be certified to a specified product certification scheme by a certification body with accreditation of Hong Kong Accreditation Service (HKAS) and issued with an accredited certificate bearing a Hong Kong Certification Body Accreditation Scheme (HKCAS) accreditation symbol or a statement on the certificate.

#### Alternatively,

4. The building material shall be compared with at least one alternative material in terms of the anticipated service life. Service life refers to the expected period of life which ends when the material or equipment breaks down or loses its required physical functions.

### (b) Protecting Vulnerable Parts of the Building from Damage

- 1. Conduct an appraisal report demonstrating a proactive approach with suitable protective measures, or designed features or solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include at least 2 items from the following:
  - 1.1. Protection from the impacts of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors)
  - 1.2. Protection against any internal vehicular or trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas
  - 1.3. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.

## (c) Protecting Exposed Parts of the Building from Material Degradation

1. Conduct an appraisal report demonstrating a proactive approach to explain the design measures to protect the exposed parts of the building from material degradation due to environmental factors. The report should cover at least 2 applicable building elements from the following, with the applicable environmental factors and material degradation effects.

#### Applicable Building Elements

- Foundation, substructure, lowest floor, retaining walls
- External walls
- · Roof or balconies
- · Glazing: windows, skylight
- External doors
- Railings or balustrades (where exposed to the external environment)
- Cladding (where exposed to the external environment)
- Staircases or ramps (where exposed to the external environment)
- Hard landscaping

En	vironmental Factors
• E	nvironmental agents, including:
-	Solar radiation
-	Temperature variation
-	Water or moisture
-	Wind
-	Rain
• E	xtreme weather conditions, including:
-	High wind speeds
-	Flooding
-	Driving rain
• B	iological agents, including:
-	Vegetation
-	Pests, insects
• P	ollutants, including:
-	Air contaminants
-	Ground contaminants.
Mat	erial Degradation Effects
• C	orrosion
• D	imensional change, e.g. swelling or shrinkage
• Fa	ading or discolouration
• R	otting
• Le	eaching
• B	listering
• A	brasion
Rer disc	narks: Additional or alternative items may be proposed at the cretion of the applicant.

## Submittals

## (a) Building Component Selection Appraisal

<b>Supporting Documents</b> Please provide softcopies with filename prefix as indicated on the leftmost column below.		ΡΑ	CA	FA/ RFA
MW_04a_00	BEAM Plus NB submission template for MW 4a	~	$\checkmark$	~
MW_04a_01	Appraisal report on selection of the building materials	~	~	~
MW_04a_02	Specifications on the use of building materials with suitable durability	~	-	-
MW_04a_03	Drawings showing the selected building materials with suitable durability	~	✓	~

MW_04a_04	Certificates of the selected building materials to demonstrate the quality assurance			
	[or]	$\checkmark$	$\checkmark$	✓
	Catalogues of the selected building materials and alternative materials to demonstrate the improvement in service life of the building materials compared with alternative materials			

## (b) Protecting Vulnerable Parts of the Building from Damage

<b>Supporting Documents</b> Please provide softcopies with filename prefix as indicated on the leftmost column below.		ΡΑ	CA	FA/ RFA
MW_04b_00	BEAM Plus NB submission template for MW 4b	$\checkmark$	~	~
MW_04b_01	Appraisal report on protective measures, or designed features, or solutions	~	~	~
MW_04b_02	Specification on the use of protective measures, or designed features, or solutions	~	-	-
MW_04b_03	Drawings showing the vulnerable areas or parts of the building are protected from damage	~	~	~

# (c) Protecting Exposed Parts of the Building from Material Degradation

<b>Supporting Documents</b> <i>Please provide softcopies with filename prefix as</i> <i>indicated on the leftmost column below.</i>		ΡΑ	CA	FA/ RFA
MW_04c_00	BEAM Plus NB submission template for MW 4c	~	~	~
MW_04c_01	Drawings showing the design measures applied to the applicable building elements with material degradation effects due to the environmental factors	~	~	~
MW_04c_02	Appraisal report on the design measures applied to the applicable building elements with material degradation effects due to the environmental factors	✓	✓	~

Remarks

MW_04c_03	Specification on the use of design measures to protect exposed parts of the building from material degradation	✓	-	-
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#### (a) Additional Information

Hong Kong Council for Testing and Certification – Local Product Certification Schemes for Construction Materials [ONLINE]. Available at: https://www.hkctc.gov.hk/en/tcsector/ba/construction\_product\_cert.html. [Accessed April 2021].

Hong Kong Housing Authority - Construction Product Certification [ONLINE]. Available at: http://www.housingauthority.gov.hk/en/business-partnerships/resources/construction-product-certification/index.html. [Accessed April 2021].

### (b) Related Credit

None