

### 3 MATERIALS ASPECTS 3.1 EFFICIENT USE OF MATERIALS

#### MA 3 PREFABRICATION

**EXCLUSIONS** None.

**OBJECTIVE** Encourage prefabrication building elements in order to reduce wastage of materials and quantities of on-site waste.

**CREDITS ATTAINABLE** 2

**PREREQUISITE** None.

**CREDIT REQUIREMENT** 1 credit when the manufacture of 20% of listed prefabricated building elements has been off-site.  
2 credits where the manufacture of 40% of listed prefabricated building elements has been off-site.

#### ASSESSMENT

The listed building elements (pre-cast concrete) includes:

- facades;
- staircases;
- slabs;
- balcony/utility platform;
- parapet;
- partition walls;
- bridge-decks; and
- footbridges.

1

Additional or alternative elements may be included, which the Client believes to demonstrate a significant contribution to the assessment criteria. However, the curtain wall/windows shall be excluded from the assessment.

2

3

In order to avoid long-distant transportation, the manufacturing factory shall be located within 800 km of the site. The Client shall demonstrate through the submission of contract specifications, drawings and other supporting documents that the quantities (by weight or volume) of those building elements fabricated off-site are in accordance with the Code of Practice for Pre-cast Construction 2003. The assessment shall take into account the number and quantities of building elements in the building development that was fabricated off-site and credits will be awarded where the assessment criteria have been met.

4

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#### BACKGROUND

Prefabrication is the manufacture of sections of a building at the factory so they can be easily and rapidly assembled at the building site, improving the buildability of the building. Since the factory fabrication of building elements is conducted under controlled conditions, it allows for more efficient disposal of debris and waste. Noise, dust, site traffic and other environmental nuisances can also be reduced. Interior millwork and custom metalwork should be detailed to be shop-finished and installed to the highest degree to limit the need for on-site painting and finishing work.

The Hong Kong construction industry is continuously under pressure to raise productivity, reduce costs and improve the quality levels of constructed facilities. All these requirements are the key drivers for

## BEAM Plus Assessment Tools

### BEAM Plus New Buildings & Existing Buildings

#### Registered Projects

#### FAQ

##### FAQ - General

##### FAQ - NB v1.1 and 1.2

##### FAQ - NB v2.0

##### FAQ - EB v1.1 and 1.2

##### FAQ - EB v2.0

#### e-Form

#### BEAM Plus Interiors

#### BEAM Plus Neighbourhood

#### BEAM Plus Data Centres & Green Data Centres Practice Guide

#### BEAM Plus Bespoke

#### Technical Circular Letter

#### iBEAM

#### Certified Building

#### Statistics

#### Assessment Process

#### Fees

#### Case Studies



BEAM Plus New Buildings & Existing Buildings > FAQ > NB v1.1 and 1.2

## FAQ - NB v1.1 and 1.2

### Site Aspects

#### SA 2 Local Transport

#### SA 3 Neighbourhood Amenities

#### SA 4 Site Design Appraisal

#### SA 6 Cultural Heritage

#### SA 7 Landscaping and Planters

#### SA 8 Microclimate Around Buildings

#### SA 9 Neighbourhood daylight access

#### SA 10 Environmental Management Plan

#### SA 11 Air pollution during construction

#### SA 12 Noise during construction

#### SA 13 Water pollution during construction

#### SA 14 Noise from building equipment

#### SA 15 Light Pollution

### Materials Aspects

#### MA P1 Timber used for temporary works

#### MA P3 Construction and Demolition Waste Management Plan

#### MA P4 Waste recycling facilities

#### MA 3 Prefabrication

#138. MA 3, 5, 6, 7 & 9, For BEAM Plus New Buildings Version 1.1 and 1.2/ MW 3, 5, 6, 7b, 8 & 9, For BEAM Plus New Buildings Version 2.0, which personnel from the contractor is/are qualified for endorsement of the calculation/ summary/ worksheet of building elements/ materials?

The following personnel from the contractor are qualified for endorsement of the calculation/ summary/ worksheet of building elements/ materials:

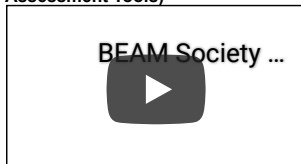
1. The contractor's quantity surveyor who possesses the following qualification:

- a Corporate Member of HKIS in QS Discipline; or
- a Chartered Member of RICS in QS Discipline; or
- a Corporate / Certified / Full Member of other International Institute of Surveyors in QS Discipline; or

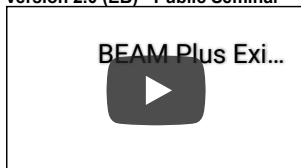
2. The contractor's project manager who supervises the Project QS, monitors the use of materials, and possesses the following qualification or experience:

- a Corporate Member of HKICM; or
- a Chartered Member of CIOB; or
- a Corporate / Certified / Full Member of other International Institute of Construction Managers; or
- at least 10 years of construction-related experience.

### BEAM Society Limited (BEAM Plus Assessment Tools)



### BEAM Plus Existing Building Version 2.0 (EB) - Public Seminar



CV of the personnel and organisation chart highlighting the personnel shall be submitted to demonstrate the personnel has fulfilled the above-mentioned requirements.

(Released on 28 January 2022)

#### **MA 4 Adaptability and Deconstruction**

#### **MA 5 Rapidly Renewable Materials**

#### **MA 6 Sustainable Forest Products**

#### **MA 7 Recycled Materials**

#### **MA 9 Regionally Manufactured Materials**

#### **MA 10 Demolition Waste Reduction**

#### **MA 11 Construction Waste Reduction**

### **Energy Use**

#### **EU 1 Reduction of CO2 Emissions**

#### **EU 1 - Option 2 Alternative Route: Passive Design**

#### **EU 2 Peak electricity demand reduction**

#### **EU 3 Embodied energy in building structural elements**

#### **EU 6 Renewable Energy System**

#### **EU 7 Air-conditioning units**

#### **EU 9 Energy efficient appliances**

#### **EU 10 Testing and Commissioning**

#### **EU 11 Operation and Maintenance**

#### **EU 12 Metering and monitoring**

### **Water Use**

#### **WU P1 Water Quality Survey**

#### **WU P2 Minimum water saving performance**

#### **WU 1 Annual water use**

#### **WU 3 Water Efficient Irrigation**

#### **WU 5 Water efficient appliances**

### **Indoor Environmental Quality**

#### **IEQ P1 Minimum ventilation performance**

#### **IEQ 1 Security**

#### **IEQ 2 Plumbing and Drainage**

#### **IEQ 4 Waste Disposal Facilities**

#### **IEQ 5 Construction IAQ Management**

#### **IEQ 6 Outdoor Sources of Air Pollution**

#### **IEQ 7 Indoor Sources of Air Pollution**

#### **IEQ 9 Increased ventilation**

#### **IEQ 10 Background Ventilation**

#### **IEQ 11 Localised Ventilation**