

26 July 2022

Nano and Advanced Materials Institute Limited
(納米及先進材料研發院有限公司)
Unit 708-709, Lakeside 1,
No.8 Science Park West Avenue,
Hong Kong Science Park, Pak Shek Kok,
New Territories

Dear Sir/Madam,

Letter of In-principle Acceptance
(Acceptance Reference No.: MiC 13/2022)

This letter is issued to **Nano and Advanced Materials Institute Limited** (納米及先進材料研發院有限公司) to confirm that the Modular Integrated Construction (MiC) system (**Model No. ITP02419NP001A**) as submitted to the Buildings Department (BD) is acceptable in principle for use in private building projects in Hong Kong in respect of the performance aspects listed in Appendix I, subject to the following conditions:

- (i) The design and construction of any building project adopting the above MiC system shall comply with the provisions of the Buildings Ordinance (BO) and its subsidiary legislations;
- (ii) The conditions as set out in Appendix II and Appendix III shall be complied with;
- (iii) The modular units of the above MiC system shall be fabricated in the factories listed in Appendix IV with a valid ISO 9001 or equivalent quality assurance certification; and
- (iv) This in-principle acceptance (IPA) is subject to a validity period expiring on 26 July 2027.

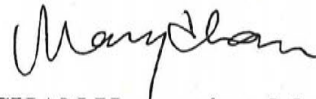
General information of the MiC System (Model No. ITP02419NP001A) submitted by Nano and Advanced Materials Institute Limited (納米及先進材料研發院有限公司) is available on BD's website.

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This IPA shall not be construed as an exemption from obtaining prior approval and consent from the Building Authority under the BO before commencement of building works nor the granting of any exemption in gross floor area calculation.

This IPA does not give any warranties, explicit or implied, regarding their availability, efficacy, fitness for a particular purpose, title or non-infringement of copyright. The manufacturer/supplier/user must ensure that the above MiC system is safe for public use and complies with all relevant legislation and statutory requirements at all times.

Yours faithfully,



(Ms CHAN Yuen-ming, Mary)
Chief Officer/Technical Services
for Director of Buildings

c.c. FUNG Brian Pak Yan (Authorized Person)
c/o Oiyn Ltd
3/F., Flat A, Cheong Fat Factory Building,
Nos. 265-271 Un Chau Street,
Cheung Sha Wan, Kowloon

LAI Kung-ching, Philip (Registered Structural Engineer)
c/o WSP Hong Kong Limited
7/F, One Kowloon, 1 Wang Yuen Street
Kowloon Bay, Hong Kong

BD/MiC/200102 (S)

**Applicable Performance Aspects
for In-principle Acceptance Reference No. MiC 13/2022**

The in-principle acceptance covers the following performance aspects of MiC system (Model No. ITP02419NP001A) of Nano and Advanced Materials Institute Limited (納米及先進材料研發院有限公司) under the Buildings Ordinance (BO) and its subsidiary legislations:

- (a) Provisions of means of escape required under Part B of the Code of Practice for Fire Safety in Buildings 2011 (FS Code) and regulation 41(1) of Building (Planning) Regulations (B(P)R);
- (b) Provisions for fire resisting construction required under Parts C and E of the FS Code and section 35 of Building (Construction) Regulation (B(C)R);
- (c) Construction of external wall pursuant to section 27 of B(C)R;
- (d) Height of storeys and provisions of natural lighting and ventilation required under regulations 24, 30 and 36 of B(P)R;
- (e) Sanitary provisions and associated drainage works within the modular units pursuant to Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations;
- (f) Structural performance for loads required under the Code of Practice on Wind Effects in Hong Kong 2004, the Code of Practice for Dead and Imposed Loads 2011 and Part 3 of B(C)R; and
- (g) Provisions for structural performance required under the Code of Practice for Structural Use of Steel 2011, the Code of Practice for Structural Use of Concrete 2013, the Code of Practice for Precast Concrete Construction 2016 and B(C)R.

2. For other performance aspects of the MiC system under the purview of the BO not listed above, compliance with the provisions of the BO and the subsidiary legislations shall be demonstrated when plans are submitted for approval under the BO.

**Acceptance Conditions (Building)
for In-principle Acceptance Reference No. MiC 13/2022**

The in-principle acceptance (IPA) of MiC system (Model No. ITP02419NP001A) of Nano and Advanced Materials Institute Limited (納米及先進材料研發院有限公司) is subject to the following conditions:

- (a) This IPA is confined to adopting the MiC system for domestic use in a building not exceeding 5 storeys (maximum modular units of 4 storeys) as applied for;
- (b) The design and construction of the MiC system should follow the plans accepted by the Buildings Department (Accepted Plans) and tally with the testing criteria of the submitted test reports. If alternative designs, materials or construction methods different from that shown in the Accepted Plans are used, compliance with the relevant provisions under the Buildings Ordinance (BO) and the subsidiary legislations should be demonstrated when plans are submitted for approval under the BO;
- (c) Authorized Person of the development project adopting the MiC system (AP) should ensure valid test and/or assessment reports complying the requirements under Part E of the Code of Practice for Fire Safety in Buildings 2011 would be available before the actual production in the prefabricated factory;
- (d) Applicant and AP should observe the requirements under Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers APP-13 on submission of Schedule of Building Materials and Products and certifying the compliance with the relevant provisions of the BO upon completion of works;
- (e) Access points for inspection and future maintenance and repair of building services and construction elements should be provided in accordance with the Accepted Plans; and
- (f) User manual with maintenance and building safety instructions for future fitting, decoration, alterations and additions of the modules as submitted with the application for IPA should be provided to the owners/occupants/users of the building adopting this MiC system.

**Acceptance Conditions (Structural)
for In-principle Acceptance Reference No. MiC 13/2022**

The in-principle acceptance (IPA) of MiC system (Model No. ITP02419NP001A) of Nano and Advanced Materials Institute Limited (納米及先進材料研發院有限公司) is subject to the following conditions:

- (a) The design and construction of MiC system should follow the plans accepted by the Buildings Department (Accepted Plans) and tally with the testing criteria of the submitted test reports. If alternative designs, materials, proprietary products or construction methods different from that shown in the Accepted Plans are used, compliance with the relevant provisions under the Buildings Ordinance (BO) and the subsidiary legislations should be demonstrated when future plans are submitted for approval under the BO;
- (b) The MiC system is accepted based on the assumptions listed below. Overall stability, structural analysis, adequacy of structural member and/or structural connections, lateral deflection etc. should be checked when there are any deviations with future structural plans submitted for approval under the BO.
 - (i) Maximum building height from Ground Floor of 18.5m;
 - (ii) Maximum modular units of 4 storeys;
 - (iii) Maximum design wind pressure of 2.20kPa (unfactored);
 - (iv) Imposed loads, superimposed loads and assumed façade loads as shown on drawing no.: S-11002. Imposed loads for vehicular traffic and parking are not considered;
 - (v) Lateral stability is provided by the in-situ RC core walls;
 - (vi) Fabrication and installation tolerances of modular units as shown on drawing no.: S-10100;
 - (vii) Capacity of structural connection of modular unit as shown on drawing no.: S-12007; and
 - (viii) No modular units are stacked more than one-storey above the completed level of each zone as shown on drawing no.: S-11003.
- (c) Structural details of internal partition wall and roof floor above 4/F modules are not included in this acceptance.

- (d) Quality control tests on the mixture of lightweight foamed concrete during and after the mixing process and for harden foamed concrete should be carried out in accordance with the test standards, sampling rates and acceptance criteria stipulated on drawing no.: S-10101. Destructive tests on completed panels should be carried out in accordance with requirement stipulated on drawing no.: S-10101.
- (e) Supervision requirements on the production of lightweight foamed concrete stipulated on drawing no.: S-10101 should be followed. In addition, the critical inspection items summarized on drawing no.: S-10101 should be covered in the inspections conducted by the QCST and QCCT.
- (f) Plant trails should be carried out in accordance with the requirements stipulated on drawing no.: S-10101. A report summarising the findings of plant trails should be submitted to the Building Authority prior to the actual commencement of production of precast lightweight foamed concrete.

Manufacturer and Prefabrication Factory

Details of the accepted manufacturer and prefabrication factory for fabrication of the modular units under In-principle Acceptance reference no. MiC 13/2022 for MiC system (Model No. ITP02419NP001A) of Nano and Advanced Materials Institute Limited (納米及先進材料研發院有限公司) are as follows:

Manufacturer: Nano and Advanced Materials Institute Limited
(納米及先進材料研發院有限公司)

<u>Prefabrication Factory</u>	<u>Address of Prefabrication Factory</u>	<u>Production</u>
Wing Hong Shun Enterprises Limited	Huizhou City Wing Hong Shun Construction Material Co., Ltd. Bailianhu Village Longxi Town Boluo Huizhou Guangdong People's Republic of China 516121	Precast lightweight foamed concrete
Chevalier (Construction) Company Limited Chevalier (Aluminium Engineering) Hong Kong Limited	中國廣東省東莞市茶山鎮東岳路 196 號	Fabrication of modular units

Remarks:

- (a) *The above factory shall maintain a valid ISO 9001 or equivalent quality assurance certification at all times.*
- (b) *The following items in the Quality Assurance Scheme are for information only. Updated information should be submitted for future building projects with MiC.*
- (i) *Frequency and extent of inspection by in-house staff and independent parties required in Appendix B of Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) ADV-36; and*
- (ii) *Frequency and extent of audit by in-house staff and independent parties required in Appendix B of PNAP ADV-36.*