

DM:	The Dubai Municipality.
Director General:	The director general of the DM.
Competent Authority:	This includes the DM; the authorities supervising Special Development Zones and free zones, such as the Dubai International Financial Centre; and any other entity legally authorised to issue building permits and to control Construction Works in the Emirate.
Construction Works:	Any construction, demolition, or maintenance works of Buildings, or any additions or modifications thereto. This includes excavation and backfilling works.
3D Printing Technology:	A technical process designed to implement Construction Works using a 3D Printer.
3D Printer:	A numerically controlled machine that mixes Raw Materials and Synthetic Additives and pours the mixture to form the main structure of a Building or any of its elements based on the plans and dimensions entered in the printer's electronic programmes, without the need for direct human intervention or for using moulds to form that structure as in traditional concrete casting.
3D Printing System:	An integrated and specific set of work processes and methodologies, devices, equipment, Mixtures, and electronic programmes required for manufacturing and casting the main building materials using a 3D Printer.
Mixtures:	The Raw Materials and Synthetic Additives used in constructing a building, or any of its elements, using the 3D Printing Technology as per the ratios and standards prescribed for Construction Works and the adopted engineering specifications.
Raw Materials:	The materials used in producing the Mixtures required for Construction using the 3D Printing Technology.
Synthetic Additives:	The synthetic materials or chemical compounds added to Raw Materials to give the Mixtures specific properties.
Register:	A register maintained by the DM for registering licensed and classified Contractors in the Emirate.
Conformity Certificate:	A document issued by the competent entities in the Emirate stating that a 3D Printer meets the adopted standard specifications.

Engineer:	A Person licensed, in accordance with the legislation in force, to carry on the activity of designing Construction Works in the Emirate using the 3D Printing Technology and/ or supervising the Construction Works implemented using that technology.
Contractor:	A Person licensed in the Emirate, in accordance with the legislation in force, to implement Construction Works using the 3D Printing Technology. This includes the main Contractors and other Contractors classified as being authorised to carry on Construction contracting activities using the 3D Printing Technology.
Person:	A natural or legal person.

Scope of Application **Article (2)**

The provisions of this Decree apply to all Construction Works implemented in the Emirate using the 3D Printing Technology and to all Persons working in this field in the Emirate, including in Special Development Zones and free zones, such as the Dubai International Financial Centre.

Objectives of the Decree **Article (3)**

This Decree aims to:

1. promote the Emirate as a leading regional and international hub in the area of using the 3D Printing Technology;
2. reduce the costs and time required for implementing Construction Works, with a view to enhancing the economic growth of the Emirate and improving its competitiveness at the international level;
3. preserve the environment by reducing the waste resulting from Construction Works;
4. regulate the use of the 3D Printing Technology in implementing Construction Works throughout the Emirate;
5. attract leading companies specialised in implementing Construction Works using the 3D Printing Technology to operate in the Emirate;
6. create an environment that encourages using the 3D Printing Technology in implementing Construction Works, particularly by real property Owners and developers, investors, Engineers, and Contractors; and
7. gradually increase the percentage of Buildings constructed using the 3D Printing Technology in the Emirate, with a view to reaching a minimum percentage of twenty-five

percent (25%) of the Buildings to be built starting from the effective date of this Decree until the beginning of 2030.

Functions of the DM Article (4)

For the purpose of achieving the objectives of this Decree, the DM will have the duties and powers to:

1. develop and implement an integrated system to plan, design, and implement Construction Works and decorative structures and models in the Emirate using the 3D Printing Technology;
2. ensure the use of the 3D Printing Technology in implementing Construction Works as per the adopted engineering standards and specifications, and develop the programmes and implementing bylaws required for this purpose;
3. qualify, register, and classify Engineers and Contractors who use the 3D Printing Technology in their work, and establish the rules, criteria, and requirements required for this purpose;
4. determine the tests to be conducted on the Raw Materials, the Synthetic Additives, and the Mixtures used in implementing Construction Works using the 3D Printing Technology and any other tests to be conducted on the structural components of Buildings constructed using that technology, in accordance with the bylaws, building codes, requirements, specifications, and standards adopted in this respect;
5. create a database of the Construction Works implemented in the Emirate using the 3D Printing Technology, with a view to facilitating access to the data and information required for establishing the technical specifications and standards for developing the 3D Printing Technology;
6. conduct technical studies and experiments to develop the 3D Printing Technology; and cooperate with research, scientific, and engineering entities specialised in this field;
7. develop the plans required for the achievement of the Emirate's strategy aiming at using the 3D Printing Technology in the design and implementation of Construction Works;
8. prepare templates for the contracts related to the 3D Printing Technology, which contain the general terms and conditions governing the use of the 3D Printing Technology in designing and implementing Construction Works;
9. enter into partnerships with international establishments and consultancy houses specialised in the 3D Printing Technology, with a view to promoting the use of this technology in the Emirate and deriving the maximum benefit from the same; and
10. exercise any other duties or powers required for the achievement of the objectives of this Decree, as assigned to it by the Executive Council.

Using the 3D Printing Technology

Article (5)

- a. No Person may conduct any activity that is related to implementing Construction Works using the 3D Printing Technology in the Emirate or promote himself as conducting that activity without first obtaining the relevant permit from the DM and having himself classified and registered by the DM in the Register. The permit will be issued, the classification will be determined, and the registration in the Register will be made, in accordance with the conditions and procedures prescribed by the relevant resolution of the Director General.
- b. Notwithstanding the provisions of any other legislation, no entity in the Emirate, including those supervising Special Development Zones and free zones, such as the Dubai International Financial Centre, may issue a commercial licence to an applicant to conduct any activity related to implementing Construction Works using the 3D Printing Technology without the applicant first obtaining the relevant permit from the DM and having himself registered in the Register in accordance with the provisions of paragraph (a) of this Article.
- c. A main Contractor may implement Construction Works using the 3D Printing Technology only through another Contractor who is classified as being authorised to conduct the Construction contracting activity using this technology, or where that main Contractor is licensed and classified as being authorised to conduct the same as a secondary activity besides his main activity.

Obligations of Engineers

Article (6)

In addition to his obligations under the legislation in force, an Engineer must:

1. establish, in line with the relevant requirements, specifications, and standards prescribed by the DM, clear technical specifications and standards for work processes within Construction sites in which the 3D Printing Technology is used, and for any materials and Mixtures to be used therein, including the concrete Mixtures used in Construction Works;
2. be familiar, before commencing the design of Construction Works, with the capabilities of the 3D Printer to be used in implementing such works; with the relevant technical and engineering standards, and with the Mixtures to be used and their engineering specifications and standards;
3. ensure that the design of the Construction Works to be implemented using the 3D Printing Technology is fully implementable; and take all actions and provide all guarantees that ensure the validity and accuracy of the data, information, and specifications of the 3D Printer before commencing the designing;
4. verify that the 3D Printer to be used in Building Construction Works has valid Conformity Certificates;
5. determine the Raw Materials and Synthetic Additives to be used in implementing Construction Works using the 3D Printing Technology in accordance with the relevant

adopted specifications stipulated in the building requirements and specifications bylaw adopted in this respect, and with the green Building standards;

6. ensure that the required tests are conducted on the Mixtures used in implementing Construction Works using the 3D Printing Technology to verify that these Mixtures are compliant with the relevant specifications and standards adopted by the DM;
7. supervise the Construction site through qualified engineers in accordance with the regulations adopted by the DM in this respect; and verify that Construction Works are implemented as per the issued building permit, that security and safety requirements are met in the Construction site, and that the Contractor and all Persons operating the 3D Printing Systems are qualified and hold valid licenses authorising them to work in the Emirate;
8. not authorise the use of any building materials, systems, or equipment that are not compliant with the 3D Printing Systems; and
9. perform any other obligations determined pursuant to the relevant resolutions issued by the Competent Authority.

Obligations of Contractors **Article (7)**

In addition to his obligations under the legislation in force, a Contractor must:

1. not implement any Construction Works using the 3D Printing Technology without first obtaining a licence from the Competent Authority;
2. obtain a valid Conformity Certificate for the 3D Printer before using the same in implementing Construction Works, whether it exists in the Construction site or elsewhere;
3. ensure that the 3D Printer is operated by Persons who are qualified and trained for this purpose;
4. obtain the required approvals for all phases of implementation of Construction Works using the 3D Printing Technology in accordance with the procedures and rules adopted in this respect by the Competent Authority;
5. in the course of implementing Construction Works using the 3D Printing Technology, conduct the necessary tests for such works in laboratories accredited in the Emirate, in accordance with the specifications and standards adopted by the DM in this respect and with the designs of the project;
6. use the Raw Materials permitted in the Emirate in the Mixtures to be used in the Construction Works implemented using the 3D Printing Technology; and conduct the tests and provide the certificates confirming the quality of such materials, in accordance with the relevant requirements prescribed by the Competent Authority;

7. provide, prior to obtaining a building permit in respect of any Construction Works to be implemented using the 3D Printing Technology, an insurance policy acceptable to the Competent Authority, and issued by an insurance company licensed to operate in the Emirate, to cover any damage that may result from using the 3D Printing Technology; and
8. perform any other obligations determined pursuant to the relevant resolutions issued by the Competent Authority.

Functions of the Authorities of Free Zones and Special Development Zones

Article (8)

- a. The provisions of this Decree will not prejudice the functions and powers of the authorities supervising Special Development Zones and free zones, such as the Dubai International Financial Centre, with respect to auditing and approving the engineering plans and designs of the Construction Works implemented using the 3D Printing Technology; and to supervising and controlling such works within the zones they supervise. In exercising their duties, these authorities must comply with the provisions of this Decree.
- b. The authorities supervising Special Development Zones and free zones, such as the Dubai International Financial Centre, must contribute to achieving the objectives of this Decree, particularly achieving the percentage prescribed by sub-paragraph (7) of Article (3) of this Decree in the zones they supervise.

Incentives, Facilitation, and Benefits

Article (9)

- a. The DM must coordinate with the concerned government and non-government entities on providing the support, incentives, facilitation, and benefits required to encourage investors, real property developers, Owners, Contractors, and Engineers to use the 3D Printing Technology to implement Construction Works in the Emirate.
- b. The DM will prepare a list of the incentives, means of facilitation, and benefits to be provided by government and non-government entities; submit the same to the Executive Council for approval; and follow up their implementation in coordination with the Competent Authorities.

Implementation of Legislation Regulating Construction Works

Article (10)

The legislation regulating Construction Works applicable at the Competent Authorities will apply to the extent that such legislation does not contradict the provisions of this Decree.

Issuing Implementing Resolutions
Article (11)

The Director General will issue the resolutions required for the implementation of this Decree. These resolutions will be published in the Official Gazette.

Repeals
Article (12)

Any provision in any other legislation will be repealed to the extent that it contradicts the provisions of this Decree.

Publication and Commencement
Article (13)

This Decree will be published in the Official Gazette and will come into force on the day on which it is published.

Mohammed bin Rashid Al Maktoum
Ruler of Dubai

Issued in Dubai on 12 July 2021
Corresponding to 2 Thu al-Hijjah 1442 A.H.