



Waste Management Department

**Technical Guidelines No . 7  
Mandatory Waste Segregation**

2015 Revision





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## 1. Introduction

Source separation – or separating waste at home, in the office, commercial centers, industrial facilities, on construction and demolition sites and in public places has proven to be effective in increasing recycling rates and in turn waste diversion in a community. The main factor is, good source separation practices reduces contamination, which in turn improves the quality of the recycled product.

The separation of materials at the point of collection results in a more homogenous and higher quality waste materials. Source separated material streams which are less contaminated by other materials are easier and less costly for recycling facilities to process and recover. Therefore, source separated materials represent a higher value to recycling markets. Lastly, source separation significantly improve the environmental performance and economic efficiencies of waste management options of the city.

Dubai Municipality in its goal to provide the residents of the Emirate of Dubai sustainable Environment to live in has developed a 20 year Dubai Strategic Integrated Plan for Solid Waste. One of the most important component and requirement of the plan is segregation/separation of waste at source. The implementation of source separation programs will contribute significantly to the waste diversion and recycling goals of the city of Dubai. Residential, C & D sites, Commercial, Industrial and Institutional Sources contributes significant quantity of material in the waste stream. Therefore, separation and diversion of recyclable materials from these sources will greatly contribute to reduction waste materials going for disposal and increasing the quantity recovery for productive use.

These guidelines has been prepared to assist all sectors to understand the standard and level of service that they are required to perform to comply with the DM regulations. Careful assessment of existing practices locally and best practices worldwide was considered in the preparation of this document.



## 2. Legislations

- 2.1 Article 62 of Local Order No. 11 Concerning Public Health and Community Safety in the Emirate of Dubai states that:

Private Establishments, companies, commercial premises, residential complex and hotel establishments shall comply with the following:

Provision of containers for the safe storage of wastes generated from their activities in accordance to the terms, conditions and standards prescribed by the Competent Department.

- 2.2 Administrative order number (30)/2007 to initiate execution of Local order 11/2003 concerning Community Safety & Public Health in the Emirate of Dubai.

Article (186): Companies having licenses for "storage and collection" of waste must abide by the following:

1. Storing waste in proper and suitable containers.

- 2.3 Dubai Green Building Regulations 2010 Section 702.05 Recyclable Waste Management Facilities.

For all new buildings other than villas, a sorting and storage facility for recyclable materials must be provided. This facility must be easily accessible and comply with the requirements of the location, access and specifications of solid wastes areas in accordance with Dubai Municipality Building Regulations. The sorting and storage facility may be part of the solid waste management facility or a separate facility.

- 2.4 Dubai Green Building Regulations 2010 Section 305.01 paragraph 4.

Construction waste materials generated on site must be segregated and stored prior to collection. Segregation must, at a minimum, include labeled storage for inert aggregates, metals, timber, dry recyclables and hazard materials.

In accordance with the above regulations, the Waste Management Department has established minimum requirements for the mandatory segregation (separation) of waste from all waste generators.



### 3. Objectives

1. To comply with the Dubai Strategic Integrated Plan for Solid Waste's provisions and KPI's.
2. To establish "On Source" separation of waste minimum standards and requirements.
3. To implement and enforce recycling related practices and procedures to all waste generators, waste management companies and processors.
4. To ensure sustainable waste management practices among Commercial, Industrial and Institutional Waste Generators in the Emirate of Dubai.

### 4. Scope

This Technical Guideline shall be applicable to all waste generating establishments namely:

1. Commercial Centers.
2. Construction and Demolition sites.
3. Hospitality Sector.
4. Office Buildings.
5. Institutional Centers.
6. Industrial Facilities.
7. Residential Buildings and Complexes.



## 5. Definition of Terms

**Collection Service** - means the collection, pick-up or removal of recyclables, solid waste generated by any premises (sources) within the Emirate.

**Construction and Demolition (C&D) Waste** - means materials generated during the construction, renovation, and demolition of buildings, roads, and bridges.

**Disposal Facility** - means a solid waste management facility to which solid waste is delivered for permanent disposal.

**DM** - means Dubai Municipality.

**Processing Facility** - means any person, firm, corporation or other entity in the business of receiving and processing recyclables into marketable commodities for sale to end markets.

**Recycle** means to process used materials into new products to prevent waste of potentially useful materials.

**Recycling Container** means the bin or other receptacle used exclusively for the storage of Recyclable Materials.

**Plastic** means those materials defines below:

### #1 Plastics: Polyethylene Terephthalate (PET or PETE)

Common uses: 2-liter soda bottles, single-use water bottles, cooking oil bottles, peanut butter jars, etc.

### #2 Plastics: High Density Polyethylene (HDPE)

Common uses: detergent bottles, yoghurt tubs, milk jugs, bottle caps, backpack frames, hard hats, hula hoops, etc.

### #3 Plastics: Polyvinyl Chloride (PVC)

Common uses: plastic pipes, Saran wraps, outdoor furniture, flooring, siding, etc.

### #4 Plastics: Low Density Polyethylene (LDPE)

Common uses: plastic film, grocery bags, dry cleaning bags, produce bags, trash can liners, food storage containers.

### #5 Plastics: Polypropylene (PP)

Common uses: bottle caps, food containers, drinking straws, etc.

### Plastic #6: Polystyrene (PS)

|                 |  |
|-----------------|--|
|                 | and carbonless multi-part forms. Excludes any paper coated with foil or plastic.   |
| <b>Glass</b>    | Empty, washed glass jars, bottles and containers of clear, green and amber (brown) that contained food and drink, caps removed. This term excludes ceramic, window glass, auto glass, mirror and kitchenware.  |
| <b>Metals</b>   | All ferrous and non-ferrous metals, including: steel, aluminum and composite cans and containers (cleaned of food wastes) and empty aerosol cans that did not contain hazardous material. Scrap metal, wire, pipes, tubing, motors, sheet metal, etc. are recyclable but must be recycled through scrap dealers.                               |
| <b>Plastics</b> | All High Density Polyethylene (HDPE) and Polyethylene Terephthalate (PET) type plastic bottles (#1 & #2), including empty, washed food, beverage, detergent, bleach and hair care containers. This term excludes all photographic film, plastic film, vinyl, rigid and foam plastic materials, as well as plastics numbered 3, 4, 5, 6, and 7. |

**Recycling Services** - means commercial services associated with the temporary storage, collection and transport of recyclable materials by a Waste Management Company or Recyclables Collector to a Materials Recovery Facility or Recycling Facility.

**Solid Waste** - means all materials discarded as being spent, useless, worthless or in excess to the owners at the time of discard or rejection, including but not limited to garbage or refuse, but shall not include Recyclables, Yard and Garden Waste, human wastes, rendering wastes, major appliances, regulated medical waste, construction and demolition wastes, residue from incinerators or other destructive systems for processing waste, junked automobiles, pathological, toxic, explosive, liquid, radioactive material or other waste material which, under existing or future federal or local laws, require special handling in its collection or disposal.

**Source Separation (Segregation)** - means the segregation recyclable materials from non-recyclable Solid Waste at the point of generation by Waste Generators,

Common uses: packaging pellets or "Styrofoam® peanuts," cups, plastic tableware, meat trays, to-go "clam shell" containers.

#### Plastic #7: Other

Common uses: LEXAN, certain kinds of food containers and Tupperware. This plastic category, as its name of "other" implies, is any plastic other than the named #1-#6 plastic types. These containers can be any of the several different types of plastic polymers.

Premise - means a house or building, together with its land and outbuildings, occupied by a business or any other occupant.

Recyclable Materials means those materials defined below:

**Table 1. Description of Recyclable Materials**

| Materials | Description  |
|-----------|--|
| Paper     | Corrugated Paper - Cardboard containers, boxes and packaging, including pizza boxes, which are cleaned of contamination by food wastes or polystyrene commonly called Styrofoam, and which have been flattened for transport.            |
|           | Newspapers, Magazines, and Catalogues - Includes common machine finished paper made chiefly from wood pulp used for printing newspapers, as well as glossy inserts, magazines and catalogues. All must be free of contaminants.          |
|           | Kraft Paper - As found in brown paper bags and package wrapping.   |
|           | Office Paper: All bond paper, and also computer printout, stationery, photocopy and ledger paper of any color from all Waste Generators. This term excludes carbon paper, chemical transfer paper and tyvek or plastic coated envelopes. |
|           | Paperboard - Includes paper packaging as found in cereal, cracker and tissue boxes, etc. and toilet tissue and paper towel tubes.  |
|           | Mixed Paper - Includes discarded and bulk mail, computer paper, colored paper, envelopes, greeting cards, wrapping paper   |

and the placement of recyclable materials into Recycling containers for collection and delivery to a Materials Recovery Facility or Recycling Facility.

TSSS – means Technical Support and Studies Section of Dubai Municipality.

Waste Generator - means any individual or person (as defined herein to include any individual, firm, company, partnership or corporation or other business/industrial entity) that produces Solid Waste requiring disposal. Classifications of Waste Generator are as follows:

1. Commercial Centers – means commercial complex comprised with many individual retail stores including fast food and restaurants.
2. Construction and Demolition sites – means locations or properties where there is an ongoing building and demolishing works. This includes fit-out and refurbishment works.
3. Hospitality Sector – establishments that provides food, drink and accommodation. It also involves entertainment, fitness and leisure provision.
4. Office Buildings - place of business where professional, technical or clerical duties are performed.
5. Institutional Centers – an organization, establishment, foundation, society, or the like, devoted to the promotion of a particular cause or program, especially one of a public, educational, health care or charity cause.
6. Industrial Facilities – are premises that is involves in the manufacture, fabrication, preparation of different kind of products for utilization of the economy.
7. Residential Buildings and Complexes - The unoccupied or occupied, rented, owned, one or multi-family houses, mobile homes that does not include institutional housing like schools, barracks etc.

WMD – means Waste Management Department of Dubai Municipality.

Waste Management Companies - means any person, company, partnership or other entity engaged in the business of providing collection service pursuant to any contract, agreement, or other arrangement with any Waste Generator, where Solid Waste is collected for disposal at a permitted solid waste disposal or transfer facility, or a municipal department or other governmental division

responsible for collection of Solid Waste in the Emirate of Dubai. In addition Waste Management Companies also means any person, firm, corporation or other entity contracted with for the purpose of collecting Recyclables from Waste Generators for delivery to a Materials Recovery Facility or Processing Facility.

## 6. Guidelines

### 6.1 Containers

- 6.1.1 The minimum container requirement in this guideline shall be a "two bin" system. One bin colored green will be for the mixed dry recyclables, the other bin colored black will be for the solid waste. It is important to note that in the next phase, a third bin for organic waste will be made mandatory. The waste generator is given flexibility to increase the number of containers as long as it follows the color codes listed below:

**Table 2. Two Bin system**

| S.no | Type of Material      | Color code |
|------|-----------------------|------------|
| 1    | Solid Waste           | Black      |
| 2    | Dry Mixed Recyclables | Green      |

**Table 3. Bin Color Codes for 3 Bin or more**

| S.no | Type of Material | Color code |
|------|------------------|------------|
| 1    | Paper            | Blue       |
| 2    | Plastic          | Green      |
| 3    | Metal            | Maroon     |
| 4    | Glass            | Yellow     |
| 5    | Rubber           | Cyan       |
| 6    | Leather          |            |
| 7    | Textile          | Red        |
| 8    | Wood             | Brown      |
| 9    | E waste          | Orange     |
| 10   | Used Batteries   | Purple     |
| 11   | Solid Waste      | Black      |

**Table 4. Bin System and Color Codes for Construction and Demolition Sites.**

| S.no | Type of Material    | Color code |
|------|---------------------|------------|
| 1    | Inert Aggregates    | Gray       |
| 2    | Metal               | Maroon     |
| 3    | Timber/wood         | Brown      |
| 4    | Dry Recyclables     | Green      |
| 5    | Hazardous Materials | Red        |
| 6    | Solid Waste         | Black      |

- 6.1.2 All containers (recyclables and solid waste) should be properly colored and labeled with appropriate instructions of what kind of materials should be deposited therein. It is also recommended that the signage be written in these languages: Arabic, English, Hindi and Urdu. The container and its signages should be designed to make the people think about recycling, a positive language that encourages involvement in the recycling initiative is recommended. The signages should be large and easy enough to read. It is also recommended to use signages above the bin with bright and catchy colors to make the bin stand out.
- 6.1.3 All commercial premises shall provide, or require all its tenants to provide, an adequate number and capacity of containers in sufficient number and capacity to accommodate all recyclable materials and solid waste.
- 6.1.4 All construction and demolition sites shall provide appropriate waste and recycling containers where applicable. Sufficient number of containers should be provided to accommodate both recyclable materials and solid waste generated.
- 6.1.5 All residential building, developments and complexes shall provide common area for solid waste and recycling containers in sufficient number and capacity to accommodate the aggregated quantity of materials to be generated by all occupants.
- 6.1.6 All industrial facilities and Educational/Governmental (Institutional Sector) Sector provide sufficient number of internal and external containers to accommodate both recyclable materials and solid waste generated.
- 6.1.7 All Recycling containers shall be placed in locations that is convenient to tenants such as those locations of garbage containers.

## 6.2 Waste Generators

- 6.2.1 Waste generator shall be responsible for the source separation of solid waste and recyclables at the point of generation. All recyclable materials shall be placed into appropriately designed containers. Premises should ensure that recyclable materials are collected separately from ordinary solid waste. Table 1 provides details to the type of recyclables required to be separated at source.
- 6.2.2 Properties or locations having Construction and Demolishing works shall segregate inert aggregates, metals, timber, dry recyclables and hazardous materials. Please refer to Table 4 for proper bin system color codes.
- 6.2.3 All waste generator shall be responsible making necessary arrangement for the collection, transportation and treatment of the collected recyclable material to a DM authorized processing or export company.
- 6.2.4 All waste generator should keep a record of the all of the quantity of the recyclable materials collected for processing as well as the solid waste generated for disposal. The report should be submitted in a monthly basis to Dubai Municipality. The record should also be available at all times in case of an unannounced audit by Dubai Municipality.
- 6.2.5 All premises shall store all recyclable materials in such a manner that it is secured from contamination.
- 6.2.6 The waste generator management is required to provide a space for safe and sanitary storage of solid waste and recyclable materials. The area needs to be kept clean and meet appropriate health and safety standards and regulations. The effectiveness of the recycling program can be improved by setting aside distinct areas for separating and temporarily storing solid waste and recyclables before collection. Cleaners, waste management companies and where applicable business owners need to have easy and safe access to these areas. The areas should be clearly identified with appropriate signage that is color-coded for waste and recycling. Paths can be color coded to show where recyclables and garbage end up. Space for cardboard compactors and skips may also be needed.
- 6.2.7 All premises is required to assign a waste management associate whose main task is to oversee the premises source segregation and recycling program and other waste management related tasks.

### 6.3 Waste Management Companies

- 6.3.1 Waste management companies shall provide regular, reliable and separate collection of recyclables to any customer to whom they provide solid waste and recyclables collection services.
- 6.3.2 Waste management companies shall transport any recyclables that they have collected or picked up to a DM approves processing or export facility only.
- 6.3.3 Waste Management companies are prohibited to collect and transport recyclable materials contaminated with municipal solid waste.
- 6.3.4 Waste Management companies shall use different (separate) vehicles in the collection of solid waste and recyclable materials. A separate program for the collection of both materials should be in place.

### 6.4 Waste Processing Companies

- 6.4.1 Waste processing companies are not allowed to process recyclable materials contaminated with solid waste or hazardous waste.
- 6.4.2 Waste processing companies are required to send a report to the materials generating premises the quantity of recyclable materials (all of each type) processed.
- 6.4.3 Waste processing companies should consider using state of the art equipments and processes to obtain maximum material recovery and minimum residual.

## 7. Fines

The Mandatory Waste Segregation Program is an initiative that is aimed at long term waste management sustainability in the Emirate of Dubai. In order to achieve this it needs a collective effort from all sectors of the city. DM believes that Environmental Stewardship and self regulation shall motivate the all waste generator management to implement the program comprehensively.

In order to strengthen the implementation of the program fines shall be imposed to waste generators who continuously and deliberately ignore this order.

**Table 5. Applicable Fines for Non Compliance of Mandatory Waste Segregation Program**

| S. No | Description of the Fine  | Amount (AED) |
|-------|--|--------------|
| 1     | Not providing containers for storing waste by the private companies and establishments, trading centers, residential communities and hotels resulting in activities not complying with the stipulations and standards approved in this respect as determined by the competent and concerned authorities. | 5000         |
| 2     | Not placing out a plan for reducing the waste or recycling the same if it becomes evident to the competent and concerned that the activity practiced by a establishment produces large quantities of wastes.   | 1000         |
| 3     | Not following the direction/instructions of DM by changing the bin when the waste generation of the premises exceeds the current bin size capacity that in poses significant risk to health and safety.  | 1000         |

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