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# Ecodesign in food packaging

## UNIT 8: Plastics for Food Packaging

### Quiz and Assignment

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## Quiz

- 1) Plastics used in food packaging are largely:
  - A. Thermoplastics
  - B. Polyethylene
  - C. Thermoresistors
  
- 2) The most used thermoplastic is:
  - A. Polypropylene (PP)
  - B. Polyesters (PET, PEN, PC)
  - C. Polyethylene (PE)
  
- 3) Which of the following plastic foils are true?
  - A. A major application of LDPE is the blow-molded milk containers with a capacity of 0.5-3 liters.
  - B. A major application of HDPE are milk-filled, blow-molded containers with a capacity of 0.5-3 liters.
  - C. A major application of PVC is the blow molded milk containers with a capacity of 0.5-3 liters.
  
- 4) Which of the following plastics has the highest density and highest melting point:
  - A. PE
  - B. PP
  - C. PRT
  
- 5) Which plastic due to the high melting point of 160 ° C is used for applications where thermal resistance is required, for example in hot-fill and microwave ovens:
  - A. LDPE
  - B. PP
  - C. HDPE
  
- 6) Which polymer is most used in the manufacture of cylinders for all carbonated beverages and mineral waters:
  - A. PVC



- B. PET
- C. HDPE

7) Which of the following polymers has a high melting point of 260 ° C and is more resistant than other polymers:

- A. PC
- B. PET
- C. HDPE

8) To facilitate the recycling of plastics in the eco-design process, the following rules will be observed:

- A. Use of mono-materials, mixed materials of the same type and different density materials.
- B. Use materials with similar density values.
- C. Many fillings will be used to modify the plastic density characteristics.

9) Which of the following plastics can be recycled into new bottles or containers:

- A. PET și HDPE transparent
- B. LDPE și PP
- C. PVC și PS

10) Which of the polymers is the least recycled:

- A. PVC, PS
- B. LDPE și PP
- C. PET și HDPE

11) The process by which the plastic is melted under controlled conditions which ensures the production of a homogeneous melt through a combination of high pressure, friction and external heat applied by pressing the granules along a heated cylinder using a specially designed screw by pressing The final melt through a strip is called:

- A. Injection
- B. Extrusion
- C. Pressing in die

12) The process which uses a heated and molded foil in a die in which the cavity so formed is filled with the food in an open atmosphere or vacuum, after which a top sheet is used for closing, which due to heat and pressure is welded of the sealed lower foil is called:



- A. Extrusion
- B. Injection
- C. Thermoforming

13) The method consists in obtaining a thin wall tube (from a few microns to tenths of a millimeter) which is dilated by means of an overpressure of air so that the foil diameters are obtained from a few centimeters to over 20 meters and which are immediately pulled on a winding roll, at the same time obtaining a transverse and longitudinal stirrup of the resulting foil or film is called:

- A. Extrusion by blowing
- B. Blow injection

## Assignment

Develop at least one of the following tasks:

1. Nominate the polymers commonly used for food packaging and give examples of how to use them (see also Presentation video-8 part 1)
2. Present briefly on plastic recycling issues (see also Presentation video-chapter-8 Part 2)
3. Indicate which are the main processes for making food packaging from polymers, which in your opinion is the most widely used process and which is, briefly, its description (see also Video Presentation-chapter-8 Part 3).

