

To continue, the process of the CATEGORÍA 1 transformation plant is described section by section:

- **1. Raw materials section**

Meat by-products go into the plant through the raw materials yard where they are unloaded into two dust-tight hoppers to be pre-triturated. After that they are transported to the main grinder where they are reduced to a particle size inferior to **30 mm**. The raw material already ground is transported by means of a piston pump to the feeding hopper lung.



- **2. Boiling, drying and sterilization section**

Sterilization in the continuous digester is carried out at atmospheric pressure and at a temperature of 100°C for 61,75 minutes, at 110°C for 46,31 minutes, at 120°C for 38,60 minutes and at 130°C for 15,43 minutes. By-products are boiled in fat and this process produces the evaporation of the water contained. The water extracted, in the way of vapour, is transported into the system of thermal oxidation. At the exit of the digester crackling and fat are obtained.



- **3. Pressing section**

In this section crackling is pressed in parallel in order to extract the most fat possible. By means of a rotating drum fats and fine debris are separated. Fine debris is sent into the pressing process, and the fat is sent to the buffer tank, where it will be treated.



- **4. Grinding and storage section**

Meal is transported by means of endless screws from the press to the feed mixer of the grinder and from there into the hammer mill grinder. Next, the meal ends in the storage hopper from where it is loaded in bulk onto lorries to be sent to authorized agents: cement plants.

- **5. Fats section**

Fat gathered in the buffer tank goes through two processes of separation, the first one by means of two centrifugal decanters working in parallel and the second one by means of a vertical centrifugal decanter where fat and water are mixed getting an impurities content inferior to 0.15% in weight.

The fine debris obtained in this process is conducted again to the line of production.

Before its definitive storage fat remains in a settling tank.

- **6. Thermal oxidation**

Along the production process gases and water vapours are released and must be treated before they are liberated into the atmosphere. The purifying process of gases and vapours employed at the plant consists in the thermal oxidation of gaseous effluents at a temperature of 850°C for two seconds. After the process of thermal oxidation there is a heat recovery boiler that supplies vapour to the whole process of production.

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- **7. Waste-water treatment**

Finally, all waste-water generated inside the plant will be stored in a tank waiting to be incorporated into the process through the sterilizer where it will be evaporated. We are dealing, in deed, with a plant with “0” spills in what respects to water coming from the process of production and the first washing of vehicles, cleaning and disinfection of the lorry box.



In what concerns the rest of waste-waters of the plant, they are sent to the treatment system. These come exclusively from the washing centre of the lorry exteriors to which later on sanitary waters from toilets and changing rooms are added.

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