

General Furnace and Melting Recommendations

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Glasma pelletized batch has been used for more than 40 years with great results in most types of furnaces: electric-, gas- and hybrid-driven. Glasma always uses the purest raw materials and in combination with our state-of-the-art factory, a consistently high quality is always maintained. These general recommendations are valid not only when melting batch, but also when melting cullets and nuggets. We have **four main recommendations** when it comes to optimizing quality, minimizing energy consumption and minimizing wear and tear on furnace equipment:

- Minimize all types of contaminations in the melt. The slightest contamination can lead to colour changes and/or the redox balance can be negatively affected. Recycled cullets can be a source of contamination, make sure they are as clean as possible.
- Melt at as low a temperature as possible within recommended temperature range. Each melting and refining process is unique and to find the perfect balance between temperature and melting/refining time, a proper trial period must be carried out. To save equipment, it's recommended to start the trial at a low melting temperature and gradually increase the temperature and/or time if needed. Under normal melting conditions CO₂, NO_x and H₂O are released. These are not normally aggressive against equipment. When the melt is exposed to excessive temperatures, in whole or in part, components such as Potassium, Sodium and Boron can evaporate. These gases can be aggressive against heating elements, refractory materials etc. The quality of the glass can also be affected. Some of the most aggressive gases are Chlorine and Fluorine but neither of these are used in Glasma pellets.
- Avoid rapid and large temperature changes. This is one of the main causes of unexpected breakdowns. See the manufacturer's recommendations.
- Ventilate the furnace during the melting process. This minimizes maintenance and increases lifetime of equipment. Electric furnaces normally only need a self-ventilated hole in the top but forced ventilation can be needed. To save energy it's recommended to reduce the ventilation after the melting process is complete. If proper ventilation is not available, please contact Glasma, we have products available for this as well. Good ventilation of the production hall should always be maintained for all types of hot glass works.

Use furnace material of good quality and observe manufacturer's recommendations, for example capacity, type of refractory material, heating elements etc.

Dusting material can sometimes be aggressive to equipment. Note that Glasma pellets are stabilized meaning the dusting is minimal. Glasma can be stored for long time without segregation or lumping.