

Efficient drying of PTFE / SAN mixture by means of IRD infrared dryer



The challenge:

The two components, PTFE (known under the brand name *Teflon*®) and SAN (styrene-acrylonitrile copolymer) are combined into one product in this process. The PTFE / SAN mixture has a high stickiness and clumps very fast.

Our process:

PTFE and SAN are "combined" by using KREYENBORG IRD (Infrared Rotary Drum) to form a product under the influence of heat and permanent and careful mixing.

In addition, the IRD is drying the PTFE / SAN within a few minutes, reducing the high water content from over 25% to approx. 0.3%.

The mixture is in constant movement inside the drum. Thus, during the drying process, a sticking of the material is prevented and at the same time a homogeneous energy input is ensured.



The process is greatly shortened by the particular efficiency of the infrared treatment, without affecting the colors.

The first material leaves the continuous IRD after about 20 minutes instead of the usual 3-4 hours required by a convective dryer. The PTFE / SAN is ready for grinding due to the very low residual moisture.

The IRD dissolves clumps and restores the original grain size of bulk solids.

Advantages of drying polymers with high water content using the IRD Infrared Drum:

The application areas of the KREYENBORG IRD are almost unlimited. For example, the IRD is used to crystallize and dry virgin or regrind material for a variety of plastics, or, as in this application example, to dry PTFE / SAN.

By using the continuous IRD, the energy-intensive dry air treatment is completely eliminated.

Energy savings averaging 30% are so easy to achieve. Therefore, the IRD is especially suitable for applications with high and changing input moisture.

Prior to the application of the IRD, the PTFE mixture is a sticky, very lumpy mass. The IRD dries in minutes instead of hours. Particularly gentle on material, the raw material is heated directly with infrared light, so that the moisture is driven from the core of the raw material to the outside of the product. The raw material is conveyed uniformly through the machine and gently circulated by the rotation of the drum and heated very evenly. So clumps are excluded. A low speed prevents breakage, abrasion and the whirling up of the product.

KREYENBORG has offered a Far East company a unique solution of drying PTFE / SAN by means of the infrared dryer.

The dried PTFE / SAN can now be used for further processing for the production of particularly stressed mobile phone backs.

For further information, please refer to:

<http://www.kreyenborg.com/en>

To obtain more detailed information, please contact:

Mr. Werner Krause

KREYENBORG Plant Technology GmbH & Co. KG

Messingweg 18

48308 Senden

Germany

Phone: +49 2597 93997-154

Fax: +49 2597 93997-60

Mail: w.krause@kreyenborg.com

