

COATINGS CASE STUDY 3 Surface Coating Extrusion

Customer Requirements

A multinational company required a cost-effective 2mm granule of a waxy product used as surface coating additive. The product had not been previously extruded.

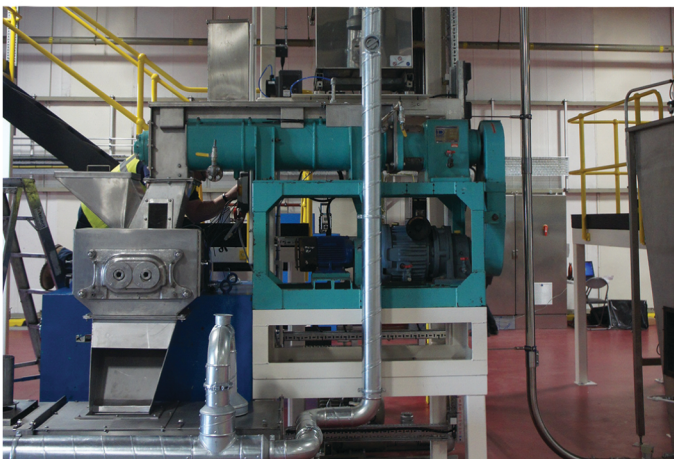
The material was supplied as a waxy solid block with a melting point below 100 °C.

The material also required careful handling as it was corrosive and a significant aim was to reduce contact hazards.

Exwold's Solution

Exwold advised that an extruded granule would provide the homogeneity required.

Initially, small scale trials were carried out at a benchtop scale (1kg) to demonstrate whether the product would extrude. The material was manually broken up and fed into the benchtop basket extruder.



This work demonstrated the product readily extruded but was sticky and did not form discrete

granules. The granules did however readily break-up after hardening.

It was therefore determined that the material needed to be cooled after extrusion. Pilot trials were carried out on a 100kg scale.

To remove the product from the drum, the drum was cut away leaving a solid lump. The client was advised that a cardboard keg with liner would potentially make this process more efficient.

The material was then 'kibbled' carefully, monitoring the product characteristics. The product was then extruded using the EXD 100 extruder fitted with a 2mm screen. Once the process started the extrusion head temperature increased, aiding the process and the material extruded well, forming an even extrudate.

The extrudate was chilled on exiting the extruder and screened, forming a dust free homogenate.

Material was suitably packed and granule stability checked. The granule remained free-flowing after 3 and 6 months.



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