Dei®Roto – Roto Moulding

Colour concentrates for rotation moulding

In addition to the production of a Masterbatch, Deifel GmbH & Co. KG Buntfarbenfabrik colours factory in Schweinfurt specialises in the production of colours for application in rotation moulding and has become a household name in the plastics processing industry as a competent and reliable partner as regards colouring. In the meantime, Dei®Roto colours for the rotation moulding have acquired their fixed position in the pigment product range.

Specialist for colouring

The beginnings lay many years back when suppliers approached Deifel and asked for a Masterbatch for the production of a PE compound for rotation moulding. This coloured material was then ground again and thereby brought into a shape which can be processed by rotation plants.

Using this rather laborious and costly method, the self-colouring of the plastic powder with colour pigments was arrived at, given the demand of the market to also produce such parts in various colours.

Special laboratory procedures

By developing special laboratory procedures, by which the sintering process during self-colouring in the rotation procedure can be simulated in terms of the real procedure, Deifel has managed to optimise the creation of customer-specific colour settings as well as goods outwards control. The thus obtained flexibility in the development of new colours, allows Deifel to respond to customer requires and to advise its customers on the colouring of rotation parts.

Here, the colouring department of Deifel cooperates closely with the product development units of its customers in order to implement what its customers or designers request in terms of colour.

While the pigments are unlocked by the kneading and mixing elements of the snail and the thus occurring shearing forces in the extruder during the production of the Masterbatch and homogeneously distributed in the plastic, other procedures are required for the production of pure pigment mixings for rotational sintering, the correct selection of the pigments ensured, and the inclusion of additives done without, which have an adverse effect on the final product.

Dispersion

As no kneading and shearing forces occur in rotation moulding and the raw materials are distributed in the rotation body through sintering-like procedures, a thorough pre-dispersion of the pigment mixing is crucial for the success of the colouring.

Problems in the production of coloured rotation bodies occur, in particular, through insufficiently dispersed and incorrectly unlocked pigments.

Badly coloured rotation parts are often identified by

- specks in the rotation body
- colour tone deviations
- pores and cavitation shrink holes

A further benefit when using pigment mixings for rotation moulding is also in the low storage and low-cost procurement of the uncoloured plastic raw material.

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