

### Dei® Roto

In addition to the production of masterbatches, Deifel GmbH & Co. KG in Schweinfurt is specialised in the production of colours, as dry blends, for the **rotational moulding process** and is known throughout in the plastics processing industry as a competent and reliable partner in colouring matters. In the meantime, **Dei®Roto pigments** for the rotational 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 rotational 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**, given the demand of the market also to produce such parts in various colours, the in-house colouring of the plastic powder with colour pigments – the so called dry blend – was established.

### ► SPECIAL LABORATORY PROCEDURES

By developing special laboratory procedures, by which the sintering process during in-house-colouring the rotational moulding procedure can be simulated, Deifel has managed to optimise the **creation of customer-specific colour settings as well as the good outgoing inspection**.

The thus obtained flexibility in the development of new colours, allows us to respond quickly to **customer requires** and to advise our 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 realise what their customers or designers request in terms of colour.

While the pigments are unlocked by the kneading and mixing elements of the screw and the thus occurring shear 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 mixtures** for rotational sintering. It is to pay attention to the correct selection of the pigments. Furthermore, the use of additives is to be dispensed, which could have an adverse effect on the final product.

### ► DISPERSION

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

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

**Badly coloured rotation parts are often identified by:**

- ◆ Spots in the rotation body
- ◆ Colour tone deviation
- ◆ Pores and shrink holes

A further benefit when **using pigment mixtures for rotational moulding** is certainly **less storage and lower procurement cost** of the uncoloured plastic raw materials.