

Prerequisites and conditions for the use of DURNI-COAT® in the food industry

According to Regulation (EC) No. 1935/2004, materials and articles intended to come into contact with food shall be manufactured in such a way that, under normal or foreseeable conditions of use, they do not transfer constituents to food in quantities that are suitable,

- a)** to endanger human health
- or
- b)** to bring about an unacceptable change in the composition of foodstuffs
- or
- c)** cause deterioration of the organoleptic characteristics of the food.

The most important prerequisite is therefore to know the „normal or foreseeable conditions of use“, because the laboratory tests required to demonstrate conformity must reflect the „worst case“ of these conditions as closely as possible (cf. EDQM guide „Metals and alloys used in food contact materials and articles“). The main focus is on:

- a)** the type or types of food to be in contact with the material,
- b)** the duration of contact between the material and the food as well as the temperature involved;
- c)** the ratio of the amount of food to the area of

the material in contact with it (kg or l per dm²).

Based on these parameters, migration tests must be carried out to determine which substances the material releases to the food and in what quantity. If the surface is also exposed to mechanical stress due to dispersed particles, the frictional effect of dry food or direct contact with other materials, these conditions must also be simulated as closely as possible during the laboratory tests.

For our DURNI-COAT® coatings, the analysis of the following elements and components needs to be performed: Nickel, lead, tin, cadmium, phosphorus and additionally the components of the underlying substrate alloy. For PTFE-DURNI-DISP, the release of PTFE must also be investigated.

The analysis is carried out by means of ICP-OES or ICP-MS, for example. The values determined must then be evaluated with regard to Regulation (EC) No. 1935/2004. Numerous testing laboratories and institutes offer corresponding tests.

Considering the wide variety of application conditions, it is not possible for Aalberts surface technologies to make general statements on the suitability of its coatings for contact with foods.

It is therefore up to the customer to have the tests adapted to his individual application and carried out by a qualified institution to prove the conformity of his product. Aalberts surface technologies supports its customers during this process.