

## In Mould Coating IMC coating for open process

The In Mould Coating (IMC) process is a specially developed process where plastic components are coated in the tool via so-called negative moulds during production.

With the IMC process, there is no need for the time-intensive and cost-intensive subsequent coating of your components.



# IMC - In Mould Coating

## EFDEDUR-IN-MOULD-COAT

### IMC - more coating in a single step

The In Mould Coating (IMC) process is a specially developed process where plastic components are coated in the tool via so-called negative moulds during production.

The subsequent time-intensive, cost-intensive and often laborious coating of the manufactured components can be omitted with the aid of this process.

The EFDEDUR-IN-MOULD-COAT UR1455 is a very high-quality 2C coating system that has been developed for a wide range of indoor and outdoor areas.

The UR1455 is especially distinguished by the fact that there is absolutely no need for an external separating agent in the manufacture of the components. This means problem-free repair coating is possible in the event of damage.



Processing variant  
Via 2C system

### IMC process

In the IMC process, a differentiation is basically made between the so-called "open" and "closed" processes.

#### Open process

The coating and the application of the reinforcing material in the open process takes place in a non-closed tool.

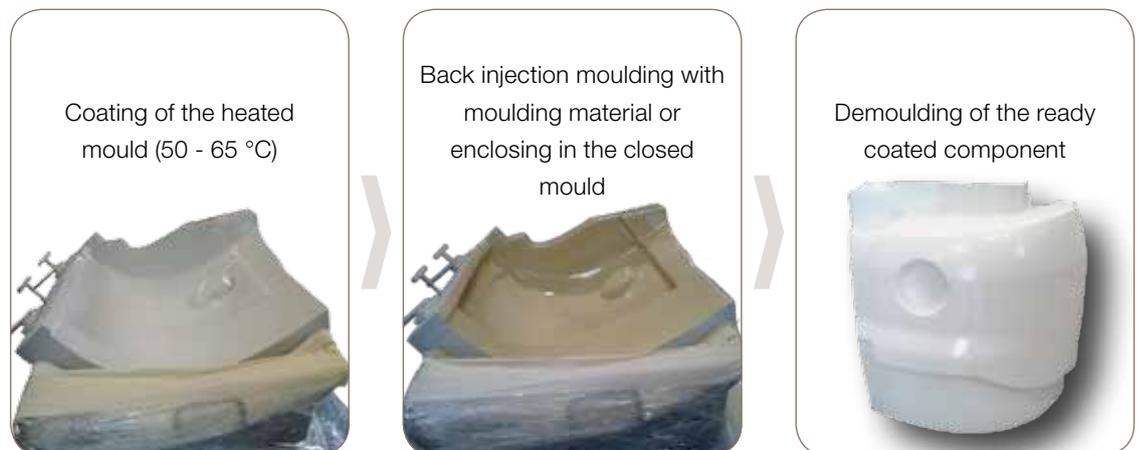
#### Closed process

In the closed process, the tool is closed after applying the coating layer before the reinforcing material is then injected.



Processing variant  
Via cup gun

### Production method



Production steps in the IMC process

### Advantage

A significantly faster production process without additional coating of the parts.

# Excellent stability

## High-strength coating film

**EFDEDUR**  
**In-Mould-Coat**

General data	
Chemical basis	Light-fast acrylic resin
Mixing ratio with HU0061 curing agent	3:1
Viscosity on delivery as per DIN 4 mm	40 - 50 seconds
Solid mass	58 %
Mixed solid mass (3:1 with HU0061)	54 %
Time until back injection moulding	2 - 3 minutes (depending on mould temperature)
Gloss level	Highly dependent on the mould, from matt to high gloss
Pot life undiluted (2C system)	Approx. 20 minutes
Pot life diluted	Approx. 90 minutes

### High-strength coating film with excellent stability

Through careful selection of the binder and other ingredients used, a high-strength coating film with excellent stability to UV radiation as well as numerous chemicals is obtained after cross-linking.

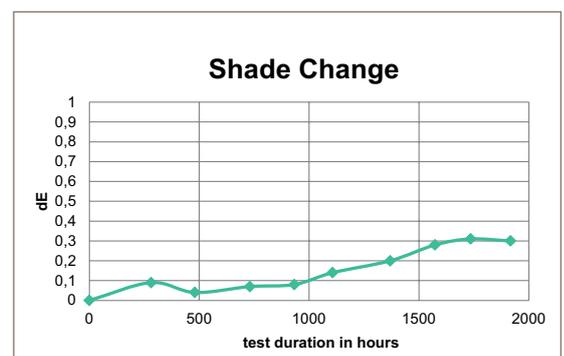
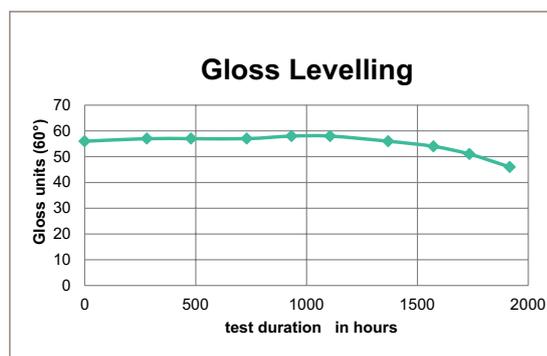
In contrast to conventional gel coats, UR1455 has a formulation that is free of styrene and therefore has excellent resistance to UV radiation.

Even the mechanical properties of the manufactured coating films can be directly compared with those of conventional 2C systems for plastic coating.

This means that coating systems based on EFDEDUR-IN-MOULD-COAT UR1455 are particularly suitable for long-term use in the outdoor area.



### WOM test



WOM test as per DIN EN ISO 11341 Process 1A (light-fastness)

# More durable in the outdoor area - numerous possibilities for use.

Chemical resistance in compliance with ISO 2812

+	No change
1	Very little change
2	Little (perceivable) change
3	Medium change
4	Large change
5	Coating layer destroyed

Chemicals	IMC coating UR1455	Solvent-containing standard coating UR1044
Petrol	+	3
Diesel	+	+
Gear oil	+	+
Brake fluid	+	3
Hydraulic oil	+	+
Bio-oil	+	+
Cooling lubricant	+	+
Radiator antifreeze	+	+
Detergent	+	+
Phosphoric acid	+	+
Caustic soda	+	1
Tree resin	+	+
Pancreatin	+	+



Example application from vehicle construction: Rescue vehicle



Example application from vehicle construction: Recreation vehicles

Resistance tests

Test	Duration	Blisters	Cross-cut (2 mm) with Tesa pull off
Hydration as per ISO 2812	480 h	0 (S0)	0
Condensed water test as per ISO 6270	480 h	0 (S0)	0
Test	Performance		Result
Multi-impact testing of stone-chip resistance of coatings as per DIN EN ISO 20567-1	1 x 500 g at a pressure of 2 bar		Characteristic value 0-1

Numerous possibilities for use  
Diverse applications

In addition to numerous possibilities for use in diverse applications, IMC coatings are already used extensively in vehicle construction today.

Concrete examples of production by means of IMC technology are high quality components for the interior (dashboards, consoles, door linings, armrests) and also mounted parts for the bodywork (bumpers, spoilers, engine bonnets, boot lids, rear hatches).

Are you interested? Please contact our experts.

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