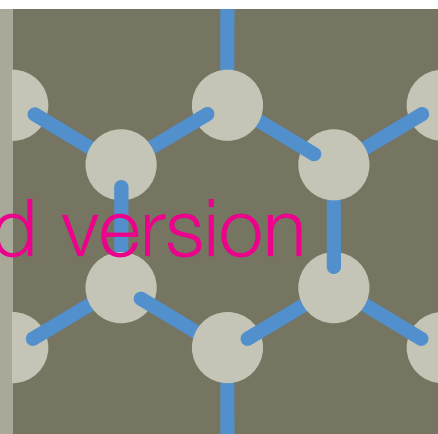




**Thermoset Moulding
Compounds for
Household**

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Bakelite® thermoset moulding compounds from Hexion have been in use in the household goods industry for decades. In the household sector, Hexion Specialty Chemicals offers competent solutions for the major appliance, small appliance and kitchen appliance segments. Typical applications for our products are oven door, oven knobs, pot handle and pan handles, housing parts, control elements, heat shields, and components of the electrical systems and drives in household appliances.

We offer thermoset products such as polyester (UP-MC) or phenolic (PF-MC) moulding compounds for such applications. Our thermoset moulding compounds are sold under the brand names Bakelite® and Keripol®.

A comprehensive product range and numerous approvals from major manufacturers, as well as a systematic ISO 9001 quality management system, underscore the exceptional competitiveness of Hexion.

Product Advantages:

- High surface quality and hardness
- Good media resistance
- Outstanding electrical properties coupled with low flammability without halogen or phosphorous compounds
- High temperature resistance
- Extremely low shrinkage, high level of design flexibility
- Extremely low warpage, nearly no sink marks
- All colors
- Desirable processing properties



Major Electrical Appliances “White Goods”

Bakelite® moulding compounds for oven trim provide high surface quality, low shrinkage and good thermal properties. Such products are supplied in various colors, and offer a high level of flexibility in the design of mouldings and moulds. It is worthwhile mentioning that all major household appliance manufacturers are final users of the finished articles. The raw materials used in this field are glass fiber-reinforced, highly (inorganic) extended unsaturated polyester moulding compounds (UP 804), or cellulose-extended UP moulding compounds (UP 3630, UP 3310 or RZ 1141). These moulding compounds are based on styrene-free, free-flowing, unsaturated polyester resins.

Mineral-filled phenolic compounds (PF 2560 and Sirfen X 65) are used for dark-colored products. Cellulose-filled polyester moulding compounds (UP 3310, Keripol RZ 1141 und UP 3630) are available for production of light-colored articles. Using these products, it is possible to fabricate multicolor oven door handle in the same mould, since the individual rates of shrinkage have been matched. For special applications, we offer innovative products exhibiting superior yellowing resistance.

Hexion always keeps an eye on current market developments: the new phenolic moulding compounds (PF 7550 and PF 2760) permit ABS-process production of metallized surfaces such as those required for chrome-plated oven trim.

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Oven Control Knobs

With its extended product line, Hexion offers a “one-stop” supply of qualitatively superior moulding compounds for various components. Thus, we supply PF and UP moulding compounds for oven knobs whose colors match those of the trim produced with UP moulding compounds.

The products we supply include wood flour-filled phenol-formaldehyde moulding compounds (PF 31 / Sirfen X 22) for dark colors. The light-colored UP moulding compounds similarly used for this purpose are reinforced with glass fiber, and are highly filled with inorganic materials (UP 804), or contain powdered cellulose (UP 3310 / UP 3630). For metallized-effect knobs, we offer special moulding compounds capable of being chrome plated (PF 7550 / PF 2760).

Fittings / Handles

Fittings represent a classical application for Bakelite® phenolic moulding compounds. In such an application, these products must meet tough demands on their thermal stability. Dishwasher-resistant products offering high surface quality can also be supplied. In addition to dark-colored or black phenolformaldehyde moulding compounds, we also supply paintable phenol-formaldehyde products.

Fittings / Handles						
	PF 31	PF1141	PF 2137	PF 2400	PF 2535	PF 8052
Temp. ≤ 200 °C	•				•	
≤ 250 °C				•		
≤ 270 °C		•				
≤ 280 °C						•
Light Color						
Dark	•			•		
Black	•	•	•	•	•	•

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Technical Data Sheet Specifications (ISO)				
Property	Units	UP 804	UP 3310	UP 3630
Density	g/cm³	2.1	1.9	1.75
Tensile Strength	MPa	-	-	50
Tensile Modulus of Elasticity	MPa	-	-	8,500
Bending Strength	MPa	100	100	80
Modulus in Bending	MPa	13,500	10,000	8,000
Charpy Impact Strength	kJ/m²	7	7	7
Charpy Notched Impact Strength	kJ/m²	3.5	3	1.8

Technical Data Sheet Specifications (ISO)							
Property	Units	PF 31	PF 1141	PF 2400	PF 2560	PF 2760	PF 8052
Density	g/cm³	1,42	1,51	1,47	1,59	1,50	1,55
Tensile Strength	MPa	50	-	55	50	50	-
Tensile Modulus of Elasticity	MPa	7.500	-	7.500	9.000	10.000	-
Bending Strength	MPa	95	90	95	90	80	95
Modulus in Bending	MPa	7.500	8.500	7.500	9.000	8.500	9.500
Charpy Impact Strength	kJ/m²	7	6	7	5,5	6,0	6,5
Charpy Notched Impact Strength	kJ/m²	1,5	1,4	1,4	1,4	1,0	1,8

The Global Leader in Thermoset Resins

As the world's largest producer of thermoset resins and the leader in adhesive and structural resins and coatings, Hexion Specialty Chemicals meets customers' specific application needs with a total solutions approach of products and services.

Hexion offers the broadest range of thermoset resin technologies and unmatched technical support – and provides them around the globe.

With our extensive research and development capabilities and applications know-how, we are uniquely able to work in partnership with customers to co-develop better products and systems.

Plus, Hexion's worldwide production network facilitates assured supply and prompt delivery wherever our customers do business.

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