

# Technical Information

## X1228/X1229

INSULATING 2-COMPONENT FILLING COMPOUND

**TYPE** Filling Compound is a **bituminous** two-component polyurethane potting compound with good dielectric properties.

**GENERAL PROPERTIES** Filling Compound is a product with high dielectric strength, low dielectric losses, good adhesion to metals, ceramics, resins and others. Curing is realised at room temperature. It is Polyurethane Compound containing bitumen and can be easily removed for repair.

**USE** Filling Compound is especially designed for cable connections and hot electric devices.

**SUPPLY** Filling Compound<sup>®</sup> consists of two components (resin and hardener):  
- Resin X1228 = modified PUR - resin system  
- Hardener X1229 = modified MDI - hardener

Containers / Weights	Resin X1228 Component B	Hardener X1229 Component A
200 l - steel drum	200 kg	200 kg
25 l - bucket (resin); 10 l - can (hardener)	25 kg	25 kg
630 / 1000 l - container	on request	
Mixing ratio (parts by weight)	1	1
Shelf life (months)	12	12
Storage temperature	<40 °C	15 – 35 °C
Toxicity (Swiss classification) /	-	-



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**STORAGE**

Both components should be stored in appropriate room in their originally sealed containers. **Avoid storage outside!**

The resin is chemically stable. However, before use, it must be carefully stirred with a suitable equipment. Stirring with particular care is necessary in case, when the resin has been stored for a long period of time.

**Important:**

The hardener must be kept away from any exposure to humidity. It should always be stored well sealed.

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**MIXING**

The resin and hardener are mixed according to the specified ratio at ambient temperature, preferably using automatic dosing and mixing equipment.

If the resin has been stored for a long period of time, it is recommended to stir well the complete content of the container and to check the viscosity before the processing is being started. Formation of lumps has to be prevented by applying appropriate stirring conditions.

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**CASTING**

The mixture is applied at ambient temperature (15°C- 30°C).

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**HARDENING  
CONDITIONS**

The resin is designed for hardening at ambient temperature. The final hardness will be achieved after approx. 3 days at temperature of 25°C

The lowest hardening temperature is at 5°C. However, the period to achieve a complete hardening is then significantly longer. Hence, by increasing the temperature it is possible to achieve a much faster hardening.

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**SAFETY  
PRECAUTIONS**

Many synthetic resin components are found to be liable for causing skin irritation, or otherwise affect health, if placed into direct contact with skin, or if their vapours have been inhaled. Adequate ventilation, use of protective clothing, goggles, gloves and chem. resistant shoes, clean working conditions and careful personal hygiene are usually sufficient as accident prevention measures. Medical advice is essential in all severe cases. FILLING COMPOUND resin is not to be considered a health hazard.

FILLING COMPOUND hardener is a toxic substance, but has a low vapour pressure at ambient temperature and it may be applied without special equipment, providing that care is taken to avoid possible skin, mucous membranes, or eye contact. For further details regarding safety, please refer to the safety datasheet.

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## FILLING COMPOUND<sup>â</sup> X1228 / X1229

	Properties		Standards	Units	Values
<b>Resin X1228 Component B</b>	Colour			RAL	~7021, black
	Density	20°C 30°C 40°C	DIN 51757	g/cm <sup>3</sup>	0,99 0,98 0,97
	Viscosity (as delivered)	20°C 30°C 40°C	Brookfield	Pa s	4 – 7 1,5-3,5 1-2
	Ignition temperature		DIN 51758	°C	
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<b>Hardener X1229 Component A</b>	Colour			RAL	~7021, black
	Density	20°C 30°C 40°C	DIN 51757	g/cm <sup>3</sup>	1,06 1,05 1,05
	Viscosity (as delivered)	20°C 30°C 40°C	Brookfield	Pa s	6-8 2-4 1-2
	Flash point		DIN 51758	°C	
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<b>Casting resin compound</b>	Mixing ratio (A / B)			parts by weight parts by volume	1 : 1 1 : 1,1
	Colour			RAL	~7021, black
	Density		DIN 51757	g/cm <sup>3</sup>	~1
	Initial viscosity	30°C	Brookfield	Pa s	2,5
	Gel time	23°C	DIN 16945	min	45-65
	Hardening conditions				48 - 72h / 25°C
	Curing conditions				-
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<b>Electrical properties</b>	Dissipation factor tan δ	25°C 40°C 60°C 80°C	IEC 250		0,025 0,04 0,11 0,27
	Relative permittivity ε <sub>r</sub>	25°C 40°C 60°C 80°C	IEC 250		3,3 3,4 3,6 3,9
	Dielectric strength	20 s	IEC 243	kV/mm	12 - 18
	50 Hz, h = 2mm				
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	Spec. surface resistivity	20°C	IEC 93	Ω	10 <sup>14</sup>

	Spec. volume resistivity	20°C	IEC 93	Ω cm	10 <sup>14</sup>
<b>Thermal properties</b>	Thermal conductivity	20 - 100°C	ISO 117	W/m K	~0,12-0,15
	Application temperature			°C	-40°C bis 100°C
<b>Physical and chemical properties</b>	Cold water absorption 24h / H <sub>2</sub> O (method 1)		ISO 62	weight %	0,1 - 0,15
	Boiling water absorption 30 min / H <sub>2</sub> O (method 3)		ISO 62	weight %	0,1
	Hardness, Shore A	25°C	DIN 53505		50-60

These properties have been determined by the above shown methods. The data given are valid for standard test specimen only. Unless otherwise specified, all data were measured at ambient temperature on specimen as manufactured and without particular treatment.

The contents of this publication are based on our present experience. They are an indication for application of our products without any liability for ourselves. Notice of legal requirements and existing patent rights has to be taken.

Due to the many application and manufacturing process possibilities, we cannot give any warranty for the technical results in individual cases.



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