

# Gel technology for experts

for protection and  
insulation of electrical  
connections up to 1kV

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# Gel technology for low voltage applications

BBC Cellpack Electrical Products is the reliable partner in the electrical sector since 55 years as a manufacturer of cable system connections and accessories for low and medium voltage. BBC Cellpack cable joints have been always convincing by combining high quality user friendly products and practical mounting as well as reliable functional safety. In order to protect the reliability of electrical connections Cellpack expands the casting compound gel portfolio based on silicon.

Wherever electric and electronic components need to be reliably protected from external factors, gel casting compounds from BBC Cellpack take advantage. Whether outdoor or indoor with a high humidity level, the simple handling gel casting compounds offer a reliable and permanent protection to the electrical connection. With a suitable housing and the appropriated gel, the protection class IP 68 can be achieved.

## Product overview



### EXPRESS+ GEL

Two-component shaking gel in bottles with only 15 seconds of mixing time

- Easy and quick installation
- Use in unfavorable installation conditions (ladders, scaffolding, etc.)
- Removable gel
- Label-free and non-toxic
- Extra high curing speed: 8 minutes
- Environmentally friendly: less plastic and packaging waste



### Power Gel

2-component gel in bottles, individually dosable all-in-one solution with mixing cup and spatula

- Sealing of connection covers and lamp housings
- Connections of lighting installations
- Protects electrical connections on vibrating household devices
- Installation of branch and connection boxes
- Electrical cable protection in flexible tubes
- Protection of electrical installations with high humidity levels and temperatures



### JUMBO GEL

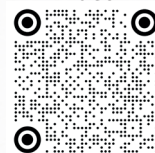
2-component gel in cans for economical casting of big quantities

- Installation of big / serial branch and connection boxes
- Filling of big installations openings in the ground, e. g. street lighting
- Flexible closure on dilatation gaps
- Water sealing by water butts or sanitary
- Sealing of roofs or rain gutters





Video



The wide BBC Cellpack gel portfolio offers modern casting compound gels to protect electrical and electronic components in the low voltage up to 1 kV. Right from the developing of these new products user friendly handling was clearly placed in the focus. As a consequence of numerous application tests the different gels are offered in suitable packaging sizes, cans, mixing bags, cartridges and plastic tins.

All BBC Cellpack gels are safety for processing, they are non-labelled as well as non toxic and conforming to REACH and RoHS directives. Moreover the gels are transparent or color translucent, easy removable, halogen-free, UV stable and flexible. The viscosities are optimally adjusted in each case to the intended field of application, so that casted gel remains soft-elastic simultaneously form stable. Vibration damping reliable prevents wire breakages or loose of contacts. In addition transparent gels allow after the casting or at any point in time an optical and physical check of the connection. Furthermore most of gels offer the possibility of individual dosing and an unlimited shelf life.



### CLEAR GEL

2-component gel in to-chamber bags, high transparent for versatile applications

- Sealing of LED-lighting
- Sealing of glass, damping of vibrating glass panes
- Installation of branch and connection boxes
- Special for very small electrical housings



### SUPRA GEL

2-component gel, ready to use in cartridge for small housing volumes

- Installation in narrow working areas, e. g. below roof
- Installation of branch and connection boxes
- Repair of cracks and gaps in outdoor areas



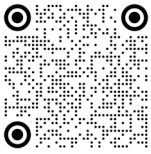
### SOFT GEL

1-component gel, ready to use in cartridge with special application range

- Temporal sealing in repair works
- Protection of electrical installations from ants and insects
- Sealing of cavities
- Corrosion protection, e. g. batteries, metal parts
- Temporary plug protection
- Soft sealing in wall ducts



Video



Webcatalogue



# EXPRESS+ GEL

## Two-component shaking gel based on silicon

Only 15 seconds of mixing time for extremely fast casting

Innovative mixing bottle with shakeable  
2-component potting compound for quick and  
permanent protection of electrical components.  
Shortest mixing time in market via shaking,  
color changing indicates the end of the mixing  
process.



### Key Features

- Easy and quick installation
- Use in unfavorable installation conditions (ladders, scaffolding, etc.)
- Removable gel
- Label-free and non-toxic
- Extra high curing speed: 8 minutes
- Environmentally friendly: less plastic and packaging waste

### Application/Suitability

- Indoor and Outdoor
- Protection against moisture (IP 68 protection class in suitable housing, TÜV Süd tested after EN 60529)
- For electrical systems up to 1 kV

### Characteristics

Data	Value
Pot life (23 °C)	8 min
Working temperature	5 °C up to 30 °C
Temperature resistance	-40 °C up to 150 °C
Dielectric strength	18 kV/mm
Specific volume resistivity	1.51 x 10 <sup>14</sup> Ω cm

Type		Content ml	Art.-No.
EXPRESS+ GEL	300	300	461305
	600	600	461306
	900	900	461307





# Power Gel

## Two-component gel based on silicon

to cast branch and connection boxes

“The Classic” in the extensive BBC Cellpack gel portfolio. POWER GEL is absolutely simple for application and reliable protects electrical installations. Due to the individual dosage, POWER GEL is not only especially flexible but also very efficient, because only the required quantity has to be used. Unused material can be stored in the bottles for future use. The user-friendly mixing cup, thanks to its handle, printing measuring scale and discharge aid is included within the delivery.



### Key Features

- Individually dosable
- All-in-one solution including mixing cup and spatula
- Reclosable bottles allow multiple applications and storage
- Vibration damping and flexible
- Seals and protects all electrical installations

### Application/Suitability

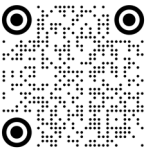
- Branch and connection boxes
- Protection against moisture
- Protection class IP 68 in suitable housing
- Indoor areas (also with high humidity levels)
- Outdoor
- For electrical systems up to 1 kV

### Characteristics

Data	Value
Composition	2 component gel with mixing ratio 1:1
Color	transparent
Viscosity (23 °C)	1000 mPa x s
Pot life (23 °C)	15 min
Dielectric strength	≥ 15 kV/mm
Working temperature	15 °C up to 30 °C
Temperature resistance	-40 °C up to 150 °C
Halogen free	yes
Removable	yes
Storage conditions/Shelf life (0 – 40 °C ambient temp.)	unlimited
Working safety	non-labelled and non-toxic

Type	Scope of delivery		Art.-No.
POWER GEL	400	Component A and component B, mixing cup, spatula	335120
	1000	Component A and component B, mixing cup, spatula	335121





# JUMBO GEL

## Two-component gel based on silicon

cost-effective casting for big quantities

Wherever gel is frequently or large quantities are requested in a recurrent use, e.g. large junction boxes or serial casting, the transparent JUMBO GEL takes advantage. Thanks to the three well selected cans sizes of 2 l, 5 l and 10 l, the gel quantity for casting the housing can be easily adjusted. JUMBO GEL is the cost-effective solution when large volumes need to be filled. The mixing of the two gel components is effected in a bucket. The cans are stackable and reclosable which means that the remaining amount of gel can be stored and used afterwards.



### Key Features

- Particularly cost-effective and efficient
- Reclosable cans allow multiple applications and storage
- Mixable in standard bucket
- Individually dosable
- Vibration dampening and flexible
- Seals and protects all electrical installations

### Application/Suitability

- Large junction boxes or serial casting
- Protection against moisture
- Protection class IP 68 in suitable housing
- Indoor areas (also with high humidity levels)
- Outdoor
- For electrical systems up to 1 kv

### Characteristics

Data	Value
Composition	2 component gel with mixing ratio 1:1
Color	transparent
Viscosity (23 °C)	1000 mPa x s
Pot life (23 °C)	17 min
Dielectric strength	≥ 12 kV/mm
Working temperature	15 °C up to 30 °C
Temperature resistance	-25 °C up to 125 °C
Halogen free	yes
Removable	yes
Storage conditions/Shelf life (0–40 °C ambient temp.)	unlimited
Working safety	non-labelled and non-toxic

Type	Content ml	Art.-No.
JUMBO GEL	2000	364306
	5000	364307
	10000	364308
ZS JUMBO GEL	12000	366513
Accessory kit (12000 ml bucket and spatula)		





# CLEAR GEL

## Two-component gel based on silicon

to protect electrical components and LEDs

Due to its specific composition CLEAR GEL is flexible and remains extraordinary transparent over time. This makes CLEAR GEL suitable for opto-electronic applications, e. g. sealing of LED, lighting systems or connections subjected to be visually checked even after years. After checking the connection through a test pin, the gel comes back to its original state. CLEAR GEL cures in a high transparent coating, which completely covers the installation to be protected, remaining removable.



### Key Features

- Permanently high transparent
- Very simple, absolutely clean mixture of the gel components in practical and easy-to-use two-chamber bags
- Favourable flow properties
- Application-oriented variants
- Vibration damping and flexible
- Seals and protects all electrical installations

### Application/Suitability

- Casting of LED, flexible LED profiles, lighting, optoelectronic applications, branch and connection boxes
- Protection against moisture
- Protection class IP 68 in suitable housing
- Indoor areas (also with high humidity levels)
- Outdoor
- For electrical systems up to 1 kV



### Characteristics

Data	Value
Composition	2 component gel with mixing ratio 1:1
Color	high transparent
Viscosity (23 °C)	1000 mPa x s
Pot life (23 °C)	15 min
Dielectric strength	≥ 15 kV/mm
Working temperature	15 °C up to 30 °C
Temperature resistance	-40 °C up to 150 °C
Halogen free	yes
Removable	yes
Storage conditions/Shelf life (0 – 40 °C ambient temp.)	24 months
Working safety	non-labelled and non-toxic

Type		Content ml	Art.-No.
CLEAR GEL	150	150	364032
	250	250	364033
	350	350	364034
	500	500	364035





# SUPRA GEL

## Two-component gel based on silicon

ready-to-use, delivered with static mixer for small volume boxes

SUPRA GEL is predestined for all kind of applications where a clean working processing is mandatory, even in difficult access areas or narrow working situations which can not be reached by the installer. Thanks to the gel cartridge, which can be used in a standard caulking gun, the casting process can be done without preliminary work such as kneading or mixing. The mixing of gel components, via the reliable static mixer, is successfully carried out during the pressing process, which allows both a precise dosage and an accurate pointing casting. The reclosable cartridge allows further use of the remaining gel.



### Key Features

- Ready-to-use gel in cartridge
- For narrow work situations
- Mixing and casting in a single step
- Clean processing and exact dosing
- Reclosable cartridge allows multiple applications and storage
- Gel cartridge suitable for use with standard caulking gun
- Seals and protects all electrical installations

### Application/Suitability

- Branch and connection boxes, mainly in difficult access areas
- Protection against moisture
- Protection class IP 68 in suitable housing
- Indoor areas (also with high humidity levels)
- Outdoor
- For electrical systems up to 1 kV



### Characteristics

Data	Value
Composition	2 component gel with mixing ratio 1:1
Color	light blue
Viscosity (23 °C)	1000 mPa x s
Pot life (23 °C)	15 min
Dielectric strength	≥ 15 kV/mm
Working temperature	15 °C up to 30 °C
Temperature resistance	-40 °C up to 150 °C
Halogen free	yes
Removable	yes
Storage conditions/Shelf life (0–30 °C ambient temp.)	24 months
Working safety	non-labelled and non-toxic

Type	Content ml	Art.-No.
SUPRA GEL	250	364036
Static mixer SUPRA GEL		366780



# SOFT GEL

## One-component gel based on silicon

ready-to-use, suitable for a wide range of applications

SOFT GEL as a particular and versatile gel variant covers some special requirements, making it possible for overhead applications because it is extremely sticky and firmly consistent. At the same time, SOFT GEL is the ideal casting compound for the prevention of insects in the equipment. The specific gel composition prevents e.g. ants to work through the casting compound, protecting thus electrical circuits from short circuits or others. Due to the perfect adherence to metals, SOFT GEL is also an excellent corrosion protection.



### Key Features

- Ready-to-use gel in cartridge
- Extremely sticky and drip-free
- Avoids insects from intrusion of casted electrical installation/surface
- Ideal for overhead applications due to strong adhesion
- Re-accessible and repositionable
- Reclosable cartridge allows multiple applications and storage
- Gel cartridge suitable for use with standard caulking gun

### Application/Suitability

- Electrical installations endangered by insects
- Corrosion protection
- Temporary protection of open sockets or plugs
- Indoor areas (also with high humidity levels)
- Outdoor
- For electrical systems up to 1 kV

### Characteristics

Data	Value
Zusammensetzung	1-Komponenten-Gel
Farbe	hellgelb
Viskosität (23 °C)	40000 mPa x s
Topfzeit (23 °C)	-
Durchschlagsfestigkeit	≥ 10 kV/mm
Verarbeitungstemperatur	0 °C bis 40 °C
Temperaturbeständigkeit	-40 °C bis 150 °C
Halogenfrei	ja
Wiederentfernbar	ja und wiederverwendbar
Lagerzeit/Haltbarkeit (0 – 40 °C Umgebungstemp.)	unbegrenzt




Type	Content ml	Art.-No.
SOFT GEL	310	364723






# Selection guide

Characteristics	EXPRESS+ GEL	POWER GEL	JUMBO GEL	CLEAR GEL	SUPRA GEL	SOFT GEL
Transparent	–	•	•	•	–	–
Mixing by shaking	•	–	–	–	–	–
Ready-to-use	–	–	–	–	•	•
Individual dosable	–	•	•	–	–	–
Precise dosing	–	–	–	–	•	–
Reclosable packing for multiple use and storing	–	•	•	–	•	•
Unlimited shelf life	•	•	•	–	–	•
IP 68 with suitable housing	–	•	•	•	•	–
For small volume housings	–	–	–	•	•	–
Cost-effective casting of big quantities	–	–	•	–	–	–
Automatic canal closing (after measuring with test pint)	–	•	•	•	•	•
For narrow working areas	–	–	–	–	•	–
Display of complete mixing by color change	•	–	–	–	–	–
Very sticky	–	–	–	–	–	•
Re-usable/repositionable	–	–	–	–	–	•
Self levelling	–	–	–	–	–	–
Highest electrical insulation value > 30 kV/mm	•	–	–	–	–	–
Vibration damping and flexible	–	•	•	•	•	–

Housing	Dimensions mm	Content ml	EXPRESS+ GEL			POWER GEL		JUMBO GEL		
			300 ml	600 ml	900 ml	400 ml	1000 ml	2000 ml	5000 ml	10000 ml
	68x35	127								
	74x58	249								
	75x75x42	236								
	82x82x51	343	1 x			1 x				
	100x100x50	500								
	165x165x76	2069		3x	2x		2x	1x		
	256x171x106	4640							1x	
	250x250x115	7188								1x

Housing	Dimensions mm	Content ml	CLEAR GEL					SUPRA GEL
			80 ml	150 ml	250 ml	350 ml	500 ml	250 ml
	68x35	127	2x	1x				1x
	74x58	249			1x			1x
	75x75x42	236			1x			1x
	82x82x51	343				1x		
	100x100x50	500					1x	
	165x165x76	2069						





# Casting compounds in comparison

## Optimal solutions for a wide range of applications

In order to response to many electrical applications with changing protection requirements, BBC Cellpack offers a wide portfolio of casting compounds which includes also polyurethane cast resins (PUR cast resins) and hydrocarbon resins in addition to the silicone gels described before. All casting compounds have different properties and allow an ideal selection by numerous criteria.

Silicon gels are mainly used when a fast and uncomplicated casting to protect against moisture is desired. Due to their properties, these flexible, transparent or colored-translucent casting compounds are accessible at any time, e.g. for testing of the connection, and can even be removed.

PUR cast resins are proven in use for many decades in electrical insulation, protection against moisture, water and harsh environmental conditions as well as against mechanical shocks and vibrations. The outstanding characteristic is the mechanical strength and long-term protection in terms of resistance, as well as the possible range of application-related variants. Hydrocarbon resins are environmentally friendly 2-component casting compounds, free of silicone and isocyanate. One of the main characteristic is the higher electrical insulation. Characteristic are the high electrical insulation values compared to PUR cast resins and silicone gels as well as the curing process without heat development.

The following comparison shows an example of three tried and tested BBC Cellpack products from the respective casting compound families:

Product variant characteristics	Silikongel JUMBO GEL	PUR cast resin EG	Hydrocarbon resin CG
Dielectric strength	≥ 12 kV/mm	≥ 20 kV/mm	≥ 30 kV/mm
Pot life at 5 °C	112 min	43 min	40 min
Pot life at 23 °C	17 min	21 min	26 min
Pot life at 40 °C	4 min	15 min	20 min
Working temperature	15 °C up to 30 °C	5 °C up to 40 °C	5 °C up to 40 °C
Mechanical protection/hardness	-	Shore D 50 ±5	Shore 00 27 ± 5
Temperature resistance	-40 °C up to 150 °C	-40 °C up to 105 °C	-40 °C up to 80 °C
Exothermic (max.)	none	80 °C	none
Removable	yes	no	yes
Flexible	yes	no	yes
Vibration damping	yes	no	yes
Oil resistance	yes	yes	no
Color	transparent	black	amber-translucent
Shelf life	unlimited	40 months	24 months

General casting compound characteristics	Silicon gels	PUR cast resins	Hydrocarbon resins
Ageing	very good	very good	poor
Range of specific application variants (flame retardant, mining, working under water etc.)	low	excellent	low
Packing options	Bags, bottles, cans, cartridges, plastic tins	Bags, cartridges	Bags, cartridges
Working safety	non-labelled halogen free isocyanat free silicon free	yes yes no yes	yes yes yes yes



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