

# Intelligent gel solutions

Non-labelled gel casting compounds for protection and insulation of electrical connections up to 1 kV





Cellpack Electrical Products is the reliable partner in the electrical sector since 50 years as a manufacturer of cable system connections and accessories for low and medium voltage. 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 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.

The wide 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 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.

### **PRODUCT OVERVIEW**



# **EXPRESS GEL**2-component shaking gel in bottles with only 5 seconds of mixing time

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EXPRESS GEL 400

Art.-No. 364845



#### **POWER GEL**

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**2-component gel in bottles, individually dosable all-in-one solution with mixing cup and spatula**POWER GEL 400 Art.-No. 335120
POWER GEL 1000 Art.-No. 335121



#### **JUMBO GEL**

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

 JUMBO GEL 2000
 Art.-No. 364306

 JUMBO GEL 5000
 Art.-No. 364307

 JUMBO GEL 10000
 Art.-No. 364308

 ZS-JUMBO GEL 5500
 Art.-No. 366512

 ZS-JUMBO GEL 12000
 Art.-No. 366513



#### **CLEAR GEL**

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

CLEAR GEL 80 Art.-No. 364031

CLEAR GEL 150 Art.-No. 364032

CLEAR GEL 250 Art.-No. 364033

CLEAR GEL 350 Art.-No. 364034

CLEAR GEL 500 Art.-No. 364034



#### **SUPRA GEL**

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

SUPRA GEL Art.-No. 364036

Static mixer SUPRA GEL Art.-No. 366780



#### **SOFT GEL**

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**1-component gel, ready to use in cartridge with special application range**SOFT GEL Art.-No. 364723



#### **FLOW GEL**

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1-component gel, ready to use in plastic tin with permanent flowabilityFLOW GEL 400Art.-No. 365280FLOW GEL 1000Art.-No. 365281

# **PRODUCT OVERVIEW AND SELECTION GUIDE**



#### **EXPRESS GEL**

2-component shaking gel in bottles with only 5 seconds of mixing time



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



#### **SUPRA GEL**

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



#### **SOFT GEL**

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

Characteristics	EXPRESS GEL	POWER GEL	JUMBO GEL	CLEAR GEL	SUPRA GEL	SOFT GEL	FLOW 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	_	•	•	•	•	_	_



### **FLOW GEL**

1-component gel, ready to use in plastic tin with permanent flowability



all-in-one solution with mixing cup and spatula







**JUMBO GEL** 

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

Housing	Dimensions Content		EXPRESS GEL POWER GEL		JUMBO GEL			
	mm	ml	400 ml	400 ml	1000 ml	2000 ml	5000 ml	10000 ml
	68 x 35	127						
	74×58	249						
	75×75×42	236						
	82x82x51	343	1 x	1 x				
	100×100×50	500						
	165×165×76	2069			2 x	1 x		
	256 x 171 x 106	4640					1 x	
	250 x 250 x 115	7188						1 x

Housing	Dimensions mm	Content ml	80 ml	150 ml	CLEAR GEL	350 ml	500 ml	SUPRA GEL 250 ml
	68x35	127	2 x	1 x	250	550	500	1 x
	74×58	249			1 x			1 x
	75×75×42	236			1 x			1 x
	82x82x51	343				1 x		
	100×100×50	500					1 x	
	165 x 165 x 76	2069						



#### **EXPRESS GEL**

- Short-term sealing of branch boxes
- Fast reparation of electrical installations
- Temporal insulation in electrical connections, e. g. camping
- Ideal to protect electrical installations against contact

#### **POWER GEL**

- 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**

- 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 watter butts or sanitary
- Sealing of roofs or rain gutters



#### **CLEAR GEL**

- 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

- 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**

- 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

#### **FLOW GEL**

- Protection of electric boards and displays
- Protection of electronic circuit boards against undesired contacts
- Temporal protection of metal etc. against dust, dirt and humidity during storage

# EXPRESS GEL





The innovative shaking gel is easy to handle and stands out from the gel market due to its new and ultra-short mixing process of casting compounds. As common to our products, Cellpack combines this new top technology product with particularly easy handling. As a matter of fact, the mixing of the two active components can be reliably achieved as it is indicated by a clear color change. EXPRESS GEL lives up to its name because it is the first gel where the preparation of the casting compound by the installer takes considerably less time than casting itself.



#### **Product benefits**

- Fastest workable gel casting compound in market with easiest handling
- Innovative mixing system by shaking
- Unique indication of the completed mixing reaction by color change
- Easy removable
- Highest electrical insulation values

#### **Application areas**

- Applications that need an extremely fast protection against moisture (not for long-lasting use under water)
- Fast-repair-solution, temporary applications
- Indoor
- Outdoor
- For electrical systems up to 1 kV



ready for casting after only 5 seconds of shaking



Characteristics	
Composition	2 component gel with mixing ratio 1:1
Color	green, after mixing
Viscosity (23 °C)	100 mPa x s
Pot life (23 °C)	10 min
Dielectric strength	≥35 kV/mm
Working temperature	15 °C up to 30 °C
Temperature resistance	-40 °C up to 150 °C
Halogen free	yes
Removable	yes, easy
Storage conditions/Shelf life (0-40 °C ambient temp.)	unlimited
Working safety	non-labelled and non-toxic

Product Content (ml) Scope of delivery

Article number

EXPRESS GEL 400 400 Component A (mixing bottle) and component B 364845

### **POWER GEL**

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



"The Classic" in the extensive 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.



#### **Product benefits**

- 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

- 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



individual quantities mixable



Characteristics	
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

Product	Content (m	) Scope of delivery	Article number
POWER GEL 400	400	Component A and component B, mixing cup, spatula	335120
POWER GEL 1000	1000	Component A and component B, mixing cup, spatula	335121

### **JUMBO GEL**

#### 2-component gel in cans for economical casting of 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.



#### **Product benefits**

- 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

- 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



ideal for casting large junction boxes or for serial casting

Product*	Content (ml)	Article number
JUMBO GEL 2000	2000	364306
JUMBO GEL 5000	5000	364307
JUMBO GEL 10000	10000	364308



Characteristics	
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

Product**	Content	Article number
ZS-JUMBO GEL 5500		366512
ZS-JUMBO GEL 12000		366513

<sup>\*</sup>Scope of delivery: Component A and component B in cans

<sup>\*\*</sup> Scope of delivery: 5,5 l- or 12 l-bucket and spatula

## **CLEAR GEL**

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



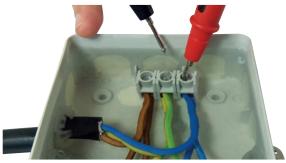
Due to its specific composition CLEAR GEL is flexible and remains extraordinary transparent over time. This makes CLEAR GEL suitable for opto-electronic applications, e. g. sealing of LED, lighting systems or connections subjected to be visually checked even after years. After checking the connection 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.



#### **Product benefits**

- 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
- Also available with small volumes (starting from 80 ml)
- Seals and protects all electrical installations

- 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



automatic canal closing

Product*	Content (ml)	Article number
CLEAR GEL 80	80	364031
CLEAR GEL 150	150	364032
CLEAR GEL 250	250	364033



Characteristics	
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

Product*	Content (ml)	Article number
CLEAR GEL 350	350	364034
CLEAR GEL 500	500	364035

<sup>\*</sup>Scope of delivery: Component A and component B in two-chamber bags

# **SUPRA GEL**





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.



#### **Product benefits**

- 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 areas**



very precise casting

Characteristics	
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

Product	Content (ml	) Scope of delivery	Article number
SUPRA GEL	250	Component A and component B in cartridge with static mixer	364036
Static mixer SUPRA GEL		1 static mixer	366780





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.



#### **Product benefits**

- 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 areas**

- 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



suitable for use with standard caulking gun

	Ca

Composition	1 component gel
Color	light yellow
/iscosity (23 °C)	40000 mPa x s
ot life (23 °C)	-
Dielectric strength	≥ 10 kV/mm
Vorking temperature	0 °C up to 40 °C
emperature resistance	-40 °C up to 150 °C
lalogen free	yes
emovable	yes and reusable
torage conditions/Shelf life 0-40 °C ambient temp.)	unlimited
Vorking safety	non-labelled and non-toxic

Product Content (ml) Scope of delivery

Article number

SOFT GEL 310 Gel in cartridge with nozzle 364723

### **FLOW GEL**

#### 1-component gel, ready to use in plastic tin with permanent flowability



FLOW GEL is a transparent and self-leveling drip-free gel which flows along gravitational force. The permanent adaptability to changing environments allows an easy check of the connection. The gel returns back automatically when a damage caused by test instruments occurs. FLOW GEL is ideal to perfectly cover horizontal arranged surfaces and complex contours like displays, circuit boards etc. FLOW GEL reaches difficult areas and requires only a small opening to flow into cavities. The permanently self-leveling properties require a closed housing.



#### **Product benefits**

- Ready-to-use gel in plastic tin
- Individually dosable
- Dosing and processing by hand
- Self-leveling and permanent flowable
- Removable, re-accessible and repositionable
- Protection against dust and moisture
- Seals and protects all electrical installations

- Ideally suitable to perfectly cover horizontally arranged surfaces and complex contours (not for long-lasting use under water)
- Protection of circuit boards and displays
- For electrical systems up to 1 kV



directly applicable by hand



Characteristics	
Composition	1 component gel
Color	transparent
Viscosity (23 °C)	3000 × 10⁴ mPa x s
Pot life (23 °C)	-
Dielectric strength	≥ 15 kV/mm
Working temperature	0 °C up to 40 °C
Temperature resistance	-40 °C up to 150 °C
Halogen free	yes
Removable	yes and reusable
Storage conditions/Shelf life (0-40 °C ambient temp.)	unlimited
Working safety	non-labelled and non-toxic

Product	Content (g)	Scope of delivery	Article number
FLOW GEL 400	400	Gel in plastic tin	365280
FLOW GEL 1000	1000	Gel in plastic tin	365281

# Casting compounds in comparison

Optimal solutions for a wide range of applications

In order to response to many electrical applications with changing protection requirements, 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 Cellpack products from the respective casting compound families:

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

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