Ray tech New

Happy

The revolutionary mini accessories with 3 entrances, pre-filled with gel and suitable for submersible installations (IPX8).

Designed in 3 dimensions to rapidly insulate and seal the most commonly used connectors. The 3 entrances not only guarantee the extreme flexibility in the range of these products by making possible triple configurations but also by the housing accepting a wide variety of connectors.

- Extremely versatile - Ready to use - Re-enterable
- For rigid of flexible insulated wires up to 4 mm²
- Pre-filled with gel, non toxic and no shelf life
- Small compact and robust
- Halogen free
- UV resistant

Electrical performance:
CEI EN 50393 as applicable
(testing under water head of the accessory installed in a box)

Gel: UL 94-HB

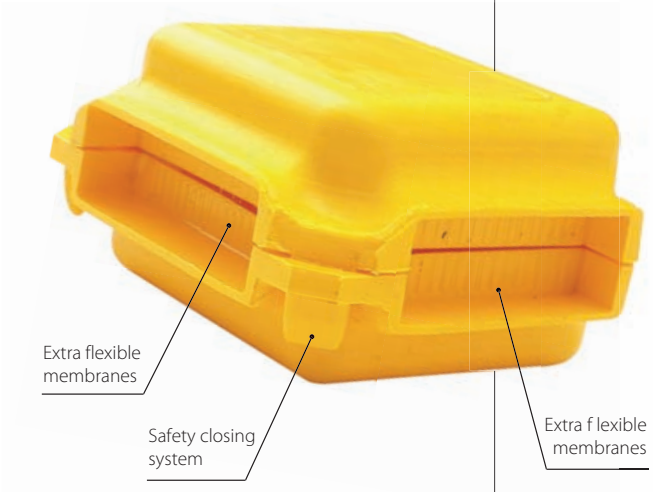
Operating temperature 90°

Installation temperature: -40°C / +50°C

Fully submersible

Can be used underground

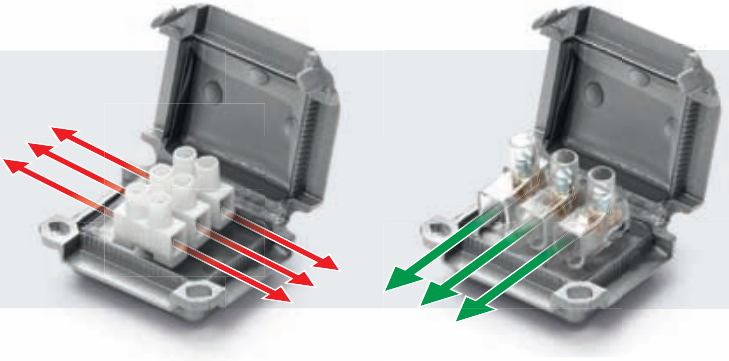
IPX8 OFFICIALLY TESTED | IMQ





Configuration examples





Ray tech

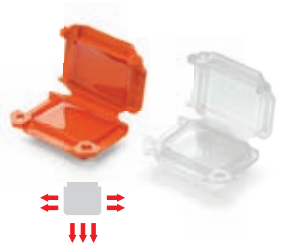
Happy 0



Product	Pieces	Color	Description	A x B x C (mm)
Happy 0	x 4	●	Blister	41 x 28 x 19
Happy 0 Box12	x 12	○	Box	

IDEAL FOR (or similar):





Happy 1



Product	Pieces	Color	Description	A x B x C (mm)
Happy 1	x 2	●	Blister	45 x 37 x 24
Happy 1 Box10	x 10	○	Box	

IDEAL FOR (or similar):





Happy 2

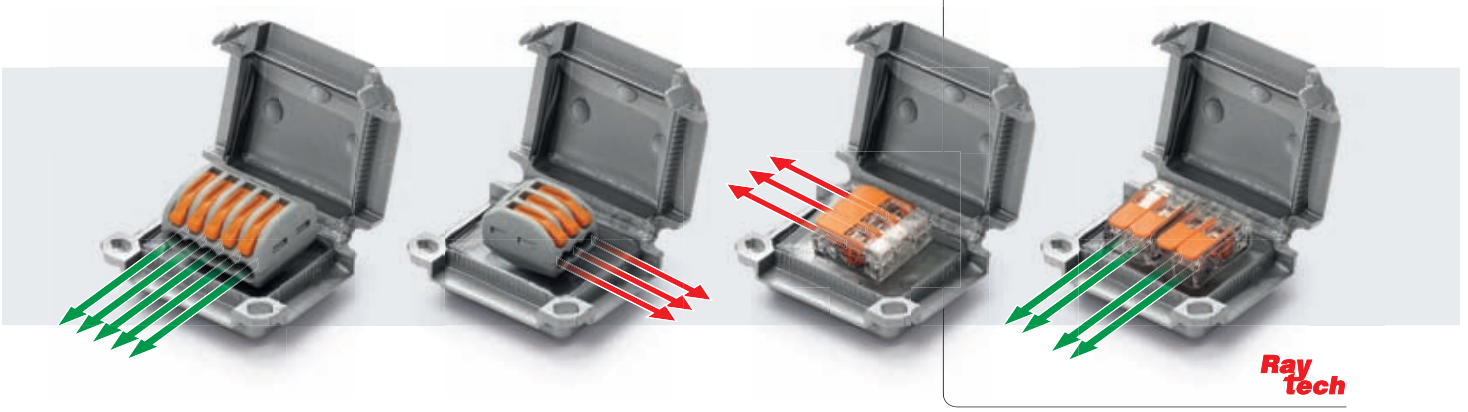


Product	Pieces	Color	Description	A x B x C (mm)
Happy 2	x 1	●	Blister	53 x 39 x 24
Happy 2 Box7	x 7	○	Box	

IDEAL FOR (or similar):





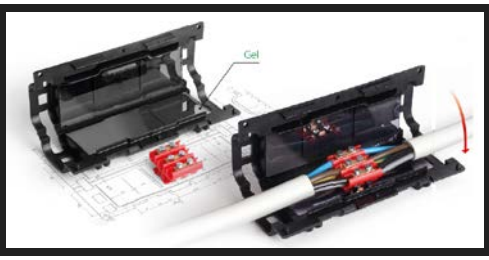


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TECHNICAL DATA SHEET



G4J - gel for prefilled joints

G4J is a Polymeric Gel on elastomeric cross linked base, chemically inert and absolutely no toxic.

G4J is UL Recognized Component
For additional information see the UL Online Certifications Directory at
www.ul.com/database

G4J is used for the filling of **all RAYTECH PREFILLED joints**:

HAPPY and **HAPPY JOINT** in all packing options;
GEL BOX LINE (ISAAC, PASCAL, WATT, JOULE, KELVIN) in all packing options;
GEL COVER LINE (OHM, BAR, MAMMUT GEL COVER) in all packing options;
NANO JOINT, NANO MAM and **NANO FOR,**
BRAVO and **MINI BRAVO,**
LITTLE JOINT (BARNEY, FRED, DINO, BARNEY Y, FRED Y, BOB4) in all packing options,
READY BOX IP68, FOX BOX
SUPER CLIK, RAPID JOINT IP68, RAPIDINO IP68,
KING JOINT, RAPID JOINT, CLIK FIRE,
RAPID JOINT IP68 System Fast RP and **RAPID JOINT System Fast RP**,
GALACTIC MAMMUT SECURITY, GALACTIC NANO JOINT,
MCA UNIVERSAL IP68 and **MCA-Y.**

PROPERTY		TEST METHOD / NOTE	UNIT	TYPICAL VALUE
Physical	Aspect	-	-	Gel
	Colour	-	-	Clear and transparent
	Initial Hardness	Penetration cone ASTM D 217/C	1/10 mm	340
	After aging hardness	Penetration cone ASTM D 217/C	1/10 mm	290
	Hardness		-	0 SHORE 00
	Density		g/cc	0,97
	Thermal conductivity	-	W/mK	Approx 0,2
	Continuous working temperature	-	°C	from -60 to +150
	Installation temperature	(related to joints)	°C	from -40 to + 50
	Water absorption after 30 days immersion	-	%	<< 0,05%
Flammability	Flame class	UL 94	-	HB
	Flammability point	-	°C	>200
	Auto-ignition temperature	-	°C	>400
Electrical	Dielectric strength	-	kV/mm	25
	Dielectric constant / Permittivity	@ 100Hz @ 100kHz	-	2.95 2.95
	Power factor / Tan δ	@ 100Hz @ 100kHz	-	0,0025 0,00015
	Volume resistivity	-	Ω cm	2,4 x 10exp 15
	Degree of protection	EN 60529		IPX8, IP68 (Depending on the envelopes)

RAYTECH S.r.l.
Via E. Fermi n. 11/13/17 – 20019 - Settimo Milanese (MI) - Italy
Tel. +39.02.33500147 • Fax +39.02.33500287 • info@raytech.it • www.raytech.it
R.E.A. 1458135 • Iscr. Reg. Imp. MI 11325760152 • Capitale Sociale € 78000,00 i.v. • Part. IVA e C.F. 11325760152

EXPOSITION TO CHEMICALS OF CROSSLINKED PRODUCT	
Salt, salty water etc	have no adverse effect.
Sea water or chlorine environments (swimming pools etc.)	have no adverse effect.
Inorganic acids in water solutions	have not visible effects.
Strong, pure acids or alkaline (not in solution)	The exposition has to be avoided, especially at high temperature.
Alkaline solutions and vinegar	could bring, after a long time of exposition, to a softening of the external surface.
Solutions of hydrocarbons in water	could give, after a long exposition at quite high temperatures, the hardening of the external surface of the products; of course nothing happens for temporary expositions
Pure hydrocarbons	Permanent immersion in strong and pure hydrocarbons has to be avoided.

SHELF LIFE
The product has unlimited shelf life, if stored and used according to the relevant instructions.

Settimo Milanese, 10/2018



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TDS-RMP001

POLYPROPYLÈNE AUTO-EXTINGUIBLE - UL94 V2

- Raw material for the moulding of the following lines of enclosures:
- Materia prima per lo stampaggio dei seguenti accessori:
- *Matière première pour la fabrication des suivantes accessoires:*

- **Gel Box Line, (ISAAC, PASCAL, WATT, JOULE, KELVIN), HAPPY** with coloured casing ;
  Gel Box Line, (ISAAC, PASCAL, WATT, JOULE, KELVIN), HAPPY con involucri colorati ;
  Gel Box Line, (ISAAC, PASCAL, WATT, JOULE, KELVIN), HAPPY avec boites colorées ;
- **MAMMUT GEL COVER**
- **NANO JOINT, NANO MAM , NANO FOR**
- **LITTLE JOINT (BARNEY, FRED, DINO, BARNEY Y, FRED Y, BOB4)**
- **SUPER CLIK**
- **RAPID JOINT IP68, RAPIDINO IP68**
- **KING JOINT**
- **RAPID JOINT**
- **CLIK FIRE**
- **MAGIC JOINT FIRE**
- **RAPID JOINT L RIP68 e RAPID JOINT RP**
- **GALACTIC MAMMUT SECURITY**
- **GALACTIC NANO JOINT 4**
- **MCA Universal IP68**
- **MCA-Y**

PROPERTIES – *Proprietà - Proprietés*	METHOD *Metodo Méthode*	UNIT *Unità Unité*	TYPICAL VALUE *Valore tipico Valeur typique*
• **GENERAL – *generali - général***			
Density Densità *Densité*	ASTM D-792	g/ml	0.93
Melt volume rate Tasso volumetrico allo stato fuso *Débit volumique à l'état fondu* 230°C/2.16Kg	ISO-1133	cm^3/10 min	16.0
Linear modul shrinkage Ritiro lineare *Rétraite linéaire*	ASTM D-955	%	1.5
Transversal mould shrinkage Ritiro trasversale *Rétraite transversale*	ASTM D-955	%	1.5
Water adsorption (24h-23°C) Assorbimento acqua (24h-23°C) *Absorption de l'eau*	ASTM D-570	%	0.02
• **THERMAL – *Termiche- Thermique***			
Vicat B	ASTM D-1525	°C	80
HDT A	ASTM D-648	°C	55

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PROPERTIES – *Proprietà - Proprietés*	METHOD *Metodo Méthode*	UNIT *Unità Unité*	TYPICAL VALUE *Valore tipico Valeur typique*
• **MECHANICAL – Meccaniche - Mécanique**			
IZOD impact strength, notched IZOD con intaglio *IZOD avec entaille*	ISO-180/1A	KJ/m^2	9
IZOD impact strength, unnotched IZOD senza intaglio *IZOD sans entaille*	ISO-180/1U	KJ/m^2	NB
Tensile strength Carico a trazione *Charge à la traction*	ASTM D-638	MPa	20
Tensile elongation at break Allungamento a rottura *Allongement à rupture*	ASTM D-638	%	>100
Tensile modulus Modulo elastico trazione *Module d'élasticité traction*	ASTM D-638	MPa	1000
Flexural modulus Modulo elastico a flessione *Module d'élasticité à flexion*	ASTM D-790	MPa	-
Flexural strenght Carico massimo a flessione *Charge maxime à flexion*	ASTM D-790	MPa	-
• **ELECTRICAL – *elettriche - eléctrique***			
Comparative tracking index CTI *Indice d'alignement comparatif*	IEC 60112	V	-
Surface resistivity Resistività di superficie *Resistivité de surface*	-	Ohm	-
• **FLAME RESISTANCE - Resistenza alla fiamma – Resistivité à la flamme**			
Flame resistance (3.2 mm) Resistenza alla fiamma (3.2 mm) *Resistivité à la flamme (3.2 mm)*	UL94	-	V2
Flame resistance (1.6 mm) Resistenza alla fiamma (1.6 mm) *Resistivité à la flamme (1.6 mm)*	UL94	-	V2
Flame resistance (0.8 mm) Resistenza alla fiamma (0.8 mm) *Resistivité à la flamme (0.8 mm)*	UL94	-	-
GWFI	IEC 60695-2-12	°C/mm	-
GWIT	IEC 60695-2-13	°C/mm	-

Settimo Milanese, 10/2018

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TDS-RMP002

POLYPROPYLENE RANDOM

- Raw material for the moulding of the enclosures (muffle) of following product lines:
  Materia prima per lo stampaggio degli involucri (muffole) dei seguenti accessori:
  Matière première pour la fabrication des suivantes accessoires (moufle):

  HAPPY with transparent casing/con involucri trasparenti/ avec boites transparentes,
  HAPPY JOINT,
  GEL BOX LINE (ISAAC, PASCAL, WATT, JOULE, KELVIN) with transparent casing/con involucri trasparenti/ avec boites transparentes
  GEL COVER LINE (OHM, BAR) with transparent casing/con involucri trasparenti / avec boites transparentes;
  BRAVO, MINI BRAVO;
  MAGIC POWER JOINT, MAGIC POWER JOINT System Plus, MAGIC POWER JOINT System Fast RP;
  MAGIC JOINT, MAGIC JOINT System Plus, MAGIC JOINT System Fast RP;
  RUBBER JOINT;
  RAYCAST, RAYCAST System Plus, RAYCAST System Fast RP;
  WONDER JOINT, WONDER JOINT System Plus.
  GELGUM JOINT L,
  GELGUM JOINT Y

PROPERTIES – Proprietà - *Proprietés*	METHOD Metodo *Méthode*	UNIT Unità *Unité*	TYPICAL VALUE Valore tipico *Valeur typique*
• **GENERAL – *generali - général***			
Density Densità *Densité*	ISO-1183	Kg/m^3	905
Melt Flow Rate Indice di fluidità *Indice de fluidité* 230°C/2.16Kg	ISO-1133	g/10 min	20
• **THERMAL – *Termiche- Thermique***			
HDT 0.45MPa	ISO-75	°C	69
• **MECHANICAL – Meccaniche - Mécanique**			
Charpy impact strength, notched Charpy con intaglio *Charpy avec entaille*	ISO-179	KJ/m^2	6
Flexural modulus Modulo elastico a flessione *Module d'élasticité à flexion*	ISO-178	MPa	1100

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