



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)

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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_G4J_gel_prefilled - 2/2



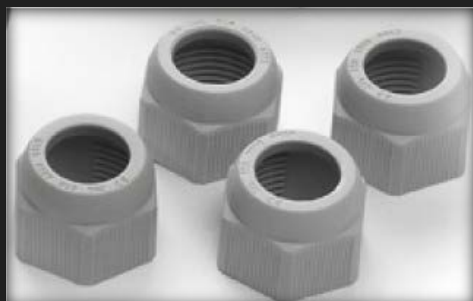
POLYPROPYLENE V2 NATURAL

- Raw material for the moulding of the following lines of enclosures, derivation boxes:
- **Materia prima per lo stampaggio dei seguenti accessori, cassette di derivazione:**
- **Matière première pour la fabrication des suivantes accessoires, boites de dérivation:**
 - **READY BOX IP68 , FOX BOX**
 - **POWER KIT**
 - **MAGIC BOX**
 - **WONDER BOX**
 - **J-BOX**
 - **MCA-SG**

PROPERTIES – Proprietà - Propriétés	METHOD Metodo Méthode	UNIT Unità Unité	TYPICAL VALUE Valore tipico Valeur typique
• PHYSICAL - Fisiche-Physique			
Density / Densità / Densité	ASTM D1505	g/cm ³	0.94
Mould Shrinkage Ritiro allo stampaggio Rétraite pendant le moulage	INTERNAL	%	1.6÷2.0
Melt flow index / Indice di fluidità / Indice de fluidité 230°C/2.16Kg	ASTM D1238	g/10min	12.0
Humidity absorption at equilibrium (50% RH – 23°C) Assorbimento all'equilibrio (50% RH – 23°C) Absorption à l'équilibre (50% RH – 23°C)	ISO 62	%	-
• CHEMICAL – Chimiche - Chimiques			
UV RESISTANCE / Resistenza agli UV / Résistance aux UV black colour / colore nero / noir grey colour / colore grigio / gris	- - -	- - -	Resistant / Resistente / Résistant Limited / Limitata / Limitée
• MECHANICAL – Meccaniche - Mécanique			
Tensile strength at yield Carico a snervamento a trazione Charge limite élastique à traction	ASTM D638	MPa	27
Tensile strength at break Carico a rottura a trazione Charge à rupture à la traction	ASTM D638	MPa	-
Tensile elongation at break Allungamento a rottura a trazione Allongement à rupture à la traction	ASTM D638	%	>50
Tensile modulus / Modulo a trazione / Module à traction	ASTM D638	MPa	-
Flexural modulus Modulo a flessione Module à flexion	ASTM D790	MPa	1200

PROPERTIES – Proprietà - Propriétés	METHOD Metodo Méthode	UNIT Unità Unité	TYPICAL VALUE Valore tipico Valeur typique
IZOD impact strength, notched (23°C) IZOD con intaglio(23°C) IZOD avec entaille (23°C)	ASTM D256	J/m	50
Charpy impact strength, notched (23°C) Charpy con intaglio (23°C) Charpy avec entaille (23°C)	ISO 179 1Ea	KJ/m ²	-
• THERMAL – Termiche - Thermique			
Vicat B (50°C/h – 50N)	ASTM D1525	°C	70
HDT (1.820 MPa)	ASTM D648	°C	45
Ball pressure test Test della biglia Epreuve de pression de la bille	IEC 335	°C	-
• FLAME RESISTANCE - Resistenza alla fiamma – Resistività à la flamme			
Oxygen Index (LOI)	ASTM D2863	%	-
Flame resistance (0.8 mm) Resistenza alla fiamma (0.8 mm) Resistività à la flamme (0.8 mm)	UL94	Class	V2
Flame resistance (1.6 mm) Resistenza alla fiamma (1.6 mm) Resistività à la flamme (1.6 mm)	UL94	Class	V2
Flame resistance (3.2 mm) Resistenza alla fiamma (3.2 mm) Resistività à la flamme (3.2 mm)	UL94	Class	V2
Needle Flame test Ago ipodermico Aiguille hypodermique	IEC 695-2-2	-	OK
Glow-wire flammability index (GWFI) Indice di infiammabilità - glow wire Indice de flammabilité - glow wire	IEC 695-2-12	°C/mm	960/3
Glow-wire ignition temperature (GWIT) Temperatura di ignizione del glow wire Température d'ignition du glow wire	IEC 695-2-13	°C/mm	-
Comparative tracking index (CTI) Correnti striscianti (CTI) Courants rampants (CTI)	IEC 112	VOLT	-

Settimo Milanese, 23/10/2018



GEL CONNECTION IP68
CABLE GLANDS METRIC PITCH

The cable glands in **LITTLE JOINT (BARNEY, FRED, DINO, BARNEY Y, FRED Y, BOB4)**, **MINIRAPID (RAPIDINO IP68)** and **READY BOX IP68, FOX BOX** accessories are made of a self-extinguishing compound, with high resistance to UV radiation and to ageing, also in the most severe conditions

Item	Pitch	Ø cable range		Ø tubes	Part of the kit IP68
	METRICO	Min (mm)	Max (mm)		
DADO M16 (CABLE GLANDS M16)	M16X1.5	6	10	-	BARNEY, BARNEY Y, RAPIDINO IP68 L2, RAPIDINO IP68 Y1
DADO M20 (CABLE GLANDS M20)	M20X1.5	8	13	-	FRED, FRED Y, BOB4, RAPIDINO IP68 L3, RAPIDINO IP68 Y3
DADO M25 (CABLE GLANDS M25)	M25X1.5	10	16	-	DINO, RAPIDINO IP68 L4
BULLONE (hole Ø 21) (CABLE GLANDS hole Ø 21)	M25X1.5	6*	18	16*, 20	READY BOX IP68 120, READY BOX IP68 90, FOX BOX

*for cable up to 13 mm, use the adaptors included in the kit

* use the adaptors included in the kit

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Protection degree	IEC 60529	-	IP 68
• MECHANICAL			
Tensile strength	ASTM D-638	MPa	20
Tensile elongation at break	ASTM D-638	%	>100
Tensile modulus	ASTM D-638	MPa	1000
RESISTENZA ALLA FIAMMA			
Flame resistance (3.2 mm)	UL94	-	V2
Flame resistance (1.6 mm)	UL94	-	V2
Flame resistance (0.8 mm)	UL94	-	V2

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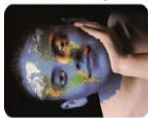
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TECHNICAL DATA SHEET

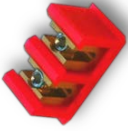
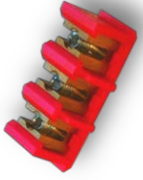


INSULATED CONNECTION BLOCK

Item	Shape	Description	Cable Section Range (mm ²)		Dimensions (mm)			Part of Jointing Kit	Selling Unit (SU)
			in line /straight	branch	L or Ø	W	H		
MORSETTIERA L16		INSULATED CONNECTION BLOCK L 5x16 for in line connections up to 5 core Grey polypropylene separator, with pre-assembled brass connectors with steel screw	1,5 - 16	na	31	24	-	KING JOINT 0, L6 & L10 RAPID JOINT L1,5-IP68 & L6-IP68 WONDER JOINT SP L16 MAGIC P JOINT SP L16 MAGIC JOINT SP L16 RAYCAST SP L16	polybag of 10 PCS
MORSETTIERA L25		INSULATED CONNECTION BLOCK L 5x25 for in line connections up to 5 core Grey polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	4 - 25	na	34	39	-	KING JOINT L25 RAPID JOINT L10-IP68 WONDER JOINT SP L25 MAGIC P JOINT SP L25 MAGIC JOINT SP L25 RAYCAST SP L25	polybag of 10 PCS
MORSETTIERA Y6			1,5 - 6	1,5-4	36	13	28	-	KING JOINT Y6 WONDER JOINT SP Y6 MAGIC P JOINT SP Y6 MAGIC JOINT SP Y6 RAYCAST SP D6
MORSETTIERA Y16		INSULATED CONNECTION BLOCK Y 5x16 for branch connections up to 5 core Grey polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	4 - 16	1,5-4	45	16	36	KING JOINT Y16 WONDER JOINT SP Y16 MAGIC P JOINT SP Y16 MAGIC JOINT SP Y16 RAYCAST SP D16	polybag of 10 PCS
MORSETTIERA T			10 - 35	1,5-6	50	24	36	-	KING JOINT Y35 MAGIC P JOINT SP T35 MAGIC JOINT SP T35 RAYCAST SP T 35 SUPER CLIK 3
MORSETTIERA B1		INSULATED CONNECTION BLOCK LY 1x6 for branch or in line connections Red polypropylene separator, with pre-assembled brass connector with allen screw (Allen key size 2 not included)	1 x 1,5 - 6	1 x 1,5 - 6	17	14	15	BRAVO 1-6 MINIBRAVO 1 BARNEY Y RAPIDINO IP68 Y1	polybag of 30 PCS



TECHNICAL DATA SHEET

INSULATED CONNECTION BLOCK





Item	Shape	Description	Cable Section Range (mm ²)		Dimensions (mm)			Part of Jointing Kit	Selling Unit (SU)
			in line /straight	branch	L or Ø	W	H		
MORSETTIERA B2		INSULATED CONNECTION BLOCK LY 2x6 for branch or in line connections Red polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	2 x 1,5 - 6	2 x 1,5 - 6	29	14	15	MINIBRAVO 2	polybag of 30 PCS
MORSETTIERA B3		INSULATED CONNECTION BLOCK LY 3x6 for branch or in line connections Red polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	3 x 1,5 - 6	3 x 1,5 - 6	40	22	15	BRAVO 3-6 MINIBRAVO 3 FRED Y RAPIDINO IP68 Y3 BOB4	polybag of 30 PCS
MORSETTIERA 3-6		INSULATED CONNECTION BLOCK LY 3x6 for branch or in line connections up to 3 cores Red polypropylene separator, with pre-assembled brass connectors with steel screw	Straight: 1,5 - 6	Main: 4 Branch: 2,5	20	25,5	18	SUPER CLIK 0	polybag of 10 PCS
MORSETTIERA 4-6		INSULATED CONNECTION BLOCK LY 4x6 for branch or in line connections up to 4 cores Red polypropylene separator, with pre-assembled brass connectors with steel screw.	Straight: 1,5 - 6	Main: 4 Branch: 2,5	19	25,5	17,2	DINO RAPIDINO IP68 L4	-



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Leader in Quality

TECHNICAL DATA SHEET

INSULATED CONNECTION BLOCK

Item	Shape	Description	Cable Section Range (mm ²)		Dimensions (mm)			Part of Jointing Kit	Selling Unit (SU)
			in line /straight	branch	L or Ø	W	H		
MORSETTIERA 5-6		INSULATED CONNECTION BLOCK LY 5x6 for branch or in line connections up to 5 cores Red polypropylene separator, with pre-assembled brass connectors with steel screw	Straight: 1,5 - 6	Main: 4 Branch: 2,5	31	25,5	18	SUPER CLIK 1	polybag of 10 PCS
MORSETTIERA 5-16		INSULATED CONNECTION BLOCK LY 5x16 mm² for branch or in line connections up to 5 cores Red polypropylene separator, with pre-assembled brass connectors with steel screw	Straight: 4 - 16	Main: 10 Branch: 6	38,5	28,5	23	SUPER CLIK 2	polybag of 10 PCS
MORSETTIERA 3x6		INSULATED CONNECTION BLOCK LY 3x6 mm² for branch or in line connections Grey polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	3 x 1,5 - 6	3 x 1,5 - 6	37	14	22	READY BOX IP68 90	
MORSETTIERA 5x6		INSULATED CONNECTION BLOCK LY 5x6 m m² for branch or in line connections Grey polypropylene separator, with pre-assembled brass connectors with allen screw (Allen key size 2 not included)	5 x 1,5 - 6	5 x 1,5 - 6	59	14	22	READY BOX IP68 120	-

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TDS_MORSETTIERE_CONNECTION BLOCKS 3/3