# Armoured Cables For Hazardous Locations









## **OIL & GAS INDUSTRY**

# **POTENTIALLY HAZARDOUS**



### Class I GA

GASES · VAPORS · LIQUIDS

# Petrosumsave®

Zone 0	An area in which an explosive mixture is continuously present, is present for prolonged period of time or frequently
Zone 1	An area in which an occasional explosive mixture formation is likely, under normal operating conditions
Zone 2	An area in which an explosive mixture is unlikely, under normal operating conditions; or if it is formed, it will only remains for a short period of time







IS FLAME LIANT RETARDANT NO FIRE PROPAGATION

	SUBSTANCE	TIME OF EXPOSURE	TEMPERATURE
UIC 895 OR cat. II	IRM 902 (ASTM N°2)	70 hours	100°C
UIC 895 OR cat. III	IRM 903 (ASTM N°3)	7 days	70°C



**OTHER INDUSTRIES** 

# **ATMOSPHERES**

# TATATA

Sumsave®	DUST	Class II
a1 d1 s1b Cca	An area in which an explosive mixture is continuously present, is present for prolonged period of time or frequently	Zone 20
CHEMICAL RESISTANCE	An area in which an occasional explosive mixture formation is likely, under normal operating conditions	Zone 21
NO FIRE PROPAGATION RETARDANT ROHS COMPLIANT	An area in which an explosive mixture is unlikely, under normal operating conditions; or if it is formed, it will only remains for a short period of time	Zone 22

	SUBSTANCE	TIME OF EXPOSURE	TEMPERATURE
ICEA S-73-532	IRM 902 (ASTM Nª2)	4 hours	70°C



# Petrosumsave<sup>®</sup> Z1OZ1MZ1-K RH UIC 895-OR 300/500V Cca RE-H(St)HSWAH · Cu/LSZH/OS/LSZH/SWA/LSZH



**Application:** Instrumentation and Control Cable for signal transmission and interconnection between field instruments and measurement equipments. Specially designed and approved for the Oil & Gas industry, with a high resistance to hydrocarbons. It is the indicated product for fixed installations, protected or not, where there are or may be gases,vapors or other substances in sufficient quantity to produce explosive or flammable atmospheres.

Areas of application can be highlighted:

- Petrochemical plants
- Liquefied Gas Plants
- Fuel refueling points
- Combined Cycle Plants

#### Technical data

Design standard	According to EN 50288-7
Rated voltage	300/500 V
Test voltage	2.000 V C.A.
Operating temperature	-25°C to +70°C (fixed installation)
Maximum temperature on the conductor	+70°C
Maximum temperature of shortcircuit	160 °C
Temperature of transportation, storage and installation	0°C to 40°C
Minimum bending radius	10 x Outer diameter in fixed installation
Resistance to the impacts	Very strong (AG4)
Chemical resistance	Excellent
UV resistance	Good



**OIL & GAS INDUSTRY** 

#### Design

Conductor	Flexible electrolytic bare or tinned copper conductor (Class 5) according to UNE-EN 60228, EN 60228 & IEC 60228
Insulation	Thermoplastic halogen free polyolefin type TI-6 according to UNE-EN 50525-3-11 & EN 50525-3-11
Overall screen	Aluminum/Polyester + tinned copper drain
Bedding	Thermoplastic halogen free polyolefin type TM-7 according to UNE-EN 50525-3-11 & EN 50525-3-11-HR
Armour	Steel wires + counter helix steel tape helically applied
Outer sheath	Thermoplastic halogen free polyolefin type TM-7 according to UNE-EN 50525-3-11 & EN 50525-3-11-HR
Color	Blue or black

#### General properties

Flame retardant according to UNE-EN 60332-1-2, EN 60332-1-2 & IEC 60332-1-2

No fire propagation, heat emission and rate of fire growth and dropping of inflamed particles according to EN 50399

Halogen free according to UNE-EN 50267, EN 50267 & IEC 60754

Low emission of corrosive gases according to UNE-EN 50267, EN 50267 & IEC 60754 (conductivity < 2,5  $\mu S/mm$  & pH > 4,3)

Smoke transmittance according to UNE-EN 61034-2, EN 61034-2 & IEC 61034-2

Resistance to mineral oils & hydrocarbons according to UIC-895-OR



# Petrosumsave<sup>®</sup> RZ1MZ1-K RH UIC 895-OR 0,6/1kV Cca 2XHSWAH · Cu/XLPE/LSZH/SWA/LSZH

#### **OIL & GAS INDUSTRY**





#### Design

**Application:** Power cable for power distribution in LV, connections and lighting. Specially designed and approved for the Oil & Gas industry, with a high resistance to hydrocarbons. It is the indicated product for fixed installations, protected or not, where there are or may be gases, vapors or other substances in sufficient quantity to produce explosive or flammable atmospheres.

Areas of application can be highlighted:

- Petrochemical plants
- Liquefied Gas Plants
- Fuel refueling points
- Combined Cycle Plants

#### Technical data

Design standard	According to IEC 60502-1 & UNE 21123-4
Rated voltage	0,6/1 kV
Test voltage	3.500 V C.A.
Operating temperature	-25°C a +70°C (fixed installation)
Maximum temperature on the conductor	+90°C
Maximum temperature of shortcircuit	250 °C
Temperature of transportation, storage and installation	0°C to 40°C
Minimum bending radius	10 x Outer diameter in fixed installation
Resistance to the impacts	Very strong (AG4)
Chemical resistance	Excellent
UV resistance	Good

Conductor	Flexible electrolityc bare copper (Class 5) according to UNE-EN 60228, EN 60228 & IEC 60228
Insulation	Cross-linked polyethylene (XLPE) type DIX 3 according to UNE 21123, HD 603 S1 & IEC 60502-1
Identification	Cores code according to UNE 21089 & HD 308 S2
Bedding	Thermoplastic halogen free polyolefin according to UNE 21123 & UNE-HD 603-1-HR
Armour	Steel wires + counter helix steel tape helically applied Minimum coverage 90% according to IEC 60502-1. For single core cables, armour of Alumi- nium wires + counter helix Aluminium tape
Outer sheath	Thermoplastic halogen free polyolefin type DMZ-E according to UNE 21123 & UNE-HD 603-1-HR
Color	Black

#### General properties

Flame retardant according to UNE-EN 60332-1-2, EN 60332-1-2 & IEC 60332-1-2

No fire propagation, heat emission and rate of fire growth and dropping of inflamed particles according to EN 50399

Halogen free according to UNE-EN 50267, EN 50267 & IEC 60754

Low emission of corrosive gases according to UNE-EN 50267, EN 50267 & IEC 60754 (conductivity < 2,5  $\mu S/mm$  & pH > 4,3)

Smoke transmitance according to UNE-EN 61034-2, EN 61034-2 & IEC 61034-2

Resistance to oil materials & hydrocarbons according to UIC-895-OR



# Sumsave<sup>®</sup> RZ1MZ1-K 0,6/1kV Cca 2XHSWAH · Cu/XLPE/LSZH/SWA/LSZH



**Application:** Power cable for power distribution in LV, connections and lighting. Specially designed and approved for other industries. Indicated for fixed installations, protected or not, where there is or might be flammable dust in sufficient quantity to produce explosions or flammable atmospheres.

Areas of application can be highlighted:

- Handling and storage of grains and derivatives in the food industry
- Processing of wood such as carpentry, sawmills, etc.
- Paper industry
- Fiber manufacturing and processing plants (textile)



Design standards	According to IEC 60502-1 & UNE 21123-4
Rated voltage	0,6/1 kV
Test voltage	3.500 V C.A.
Operating temperature:	-25°C to +70°C (fixed installation)
Maximum temperature on the conductor	+90°C
Maximum temperature of shortcircuit	250 °C
Temperature of transportation, storage and installation	0°C to 40°C
Minimum bending radius	10 x Outer diameter in fixed instalation
Resistance to the impacts	Very strong (AG4)
Chemical resistance	Good

s1b

d1

#### Design

Conductor	Flexible electrolityc bare copper (Class 5) according to UNE-EN 60228, EN 60228 & IEC 60228
Insulation	Cross-linked polyethylene (XLPE) type DIX 3 according to UNE 21123, HD 603 S1 & IEC 60502-1
Identification	Conductors according to UNE 21089 & HD 308 S2
Bedding	Thermoplastic halogen free polyolefin according to UNE 21123 & UNE-HD 603-1
Armour	Steel wires + counter-helix steel tape helically applied Minimum coverage 90% according to IEC 60502-1 . For single core cables, armour of Alumi- nium wires + counter helix Aluminium tape
Outer sheath	Thermoplastic halogen free polyolefin type DMZ-E according to UNE 21123 & UNE-HD 603-1
Color	Green

#### General properties

Flame retardant according to UNE-EN 60332-1-2, EN 60332-1-2 & IEC 60332-1-2

No fire propagation, heat emission and rate of fire growth and dropping of inflamed particles according to EN 50399

Halogen free accorging to UNE-EN 50267, EN 50267 & IEC 60754

Low emission of corrosive gases according to UNE-EN 50267, EN 50267 & IEC 60754 (conductivity < 2,5  $\mu S/mm$  & pH > 4,3)

Smoke transmitance according to UNE-EN 61034-2, EN 61034-2 & IEC 61034-2

Resistance to oil according to ICEA S-73-532

**OTHER INDUSTRIES** 

a1



# Sumsave® Z1OZ1MZ1-K 300/500V Cca RE-H(St)HSWAH · Cu/LSZH/OS/LSZH/SWA/LSZH



Application: Instrumentation and Control Cable for signal transmission and interconnection between field instruments and measurement equipments. Specially designed and approved for other industries, being the one indicated for fixed installations, protected or not, where there is or may be flammable dust in sufficient quantity to produce explosive or flammable atmospheres.

Areas of application can be highlighted:

- Handling and storage of grains and derivatives in the food industry
- Processing of wood such as carpentry, sawmills, etc.
- Paper industry
- Fiber manufacturing and processing plants (textile)



**OTHER INDUSTRIES** 

#### Design

Conductor	Flexible electrolityc bare copper (Class 5) according to UNE-EN 60228, EN 60228 & IEC 60228
Insulation	Thermoplastic halogen free polyolefin type TI-6 according to UNE-EN 50525-3-11 & EN 50525-3-11
Overall screen	Aluminum/Polyester + tinned copper drain
Bedding	Thermoplastic halogen free polyolefin type TM-7 according to UNE-EN 50525-3-11 & EN 50525-3-11
Armour	Steel wires+ counter helix steel tape helically applied
Outer sheath	Thermoplastic halogen free polyolefin type TM-7 according to UNE-EN 50525-3-11 & EN 50525-3-11
Color	Green

#### General properties

Flame retardant according to UNE-EN 60332-1-2, EN 60332-1-2 & IEC 60332-1-2

No fire propagation, heat emission and rate of fire growth and dropping of inflamed particles according to EN 50399

Halogen free according to UNE-EN 50267, EN 50267 & IEC 60754

Low emission of corrosive gases according to UNE-EN 50267, EN 50267 & IEC 60754 Conductivity < 2,5  $\mu S/mm$  & pH > 4,3)

Smoke transmittance according to UNE-EN 61034-2, EN 61034-2 & IEC 61034-2

Resistance to oil according to ICEA S-73-532

#### Technical data

Design standard	According to EN 50288-7
Rated voltage	300/500 V
Test voltage	2.000 V C.A.
Operating temperature	-25°C to +70°C (fixed installation)
Maximum temperature on the conductor	+70°C
Maximum temperature of shortcircuit	160 °C
Temperature of transportation, storage and installation	0°C to 40°C
Minimum bending radius	10 x Outer diameter in fixed installation
Resistance to the impacts	Very strong (AG4)
Chemical resistance	Good



**Expect High Performance** 

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