

# YAGHOUT CABLE

Humans Deserve The Best Quality

Experience The Quality With Us

Yaghout Cable®

**2023**

# YAGHOUT CABLE

## Quality policy of the company

Yaghout Cable company as one of the leading manufacturers of heat and fire resistant wires and cables nationally

and internationally obliged and committed to continuously improve the quality of products and services and improve environmental performance in accordance with ISO9001: 2015, ISO14001: 2015 and ISO / IEC17025: 2017 to meet the needs of stakeholders and promote customer satisfaction as well as environmental protection. These standards are increasing customer satisfaction and all stakeholders by focusing on needs and wants, improving the quality of products and fulfilling commitments on time

Development and revision of the company's macro quality and environmental goals based on national and international standards in response to the needs of stakeholders

Identify, access, and evaluate compliance with legal requirements and other requirements related to management systems

Commitment to continuous improvement of quality, environmental performance, and effectiveness of management systems

Respect of the principles of confidentiality, impartiality, and confidentiality in conducting tests and laboratory services

Environmental protection such as prevention of pollution, and management of environmental consequences

Increasing the productivity, capability and satisfaction of human resources and improving technical knowledge and skills through effective continuous training

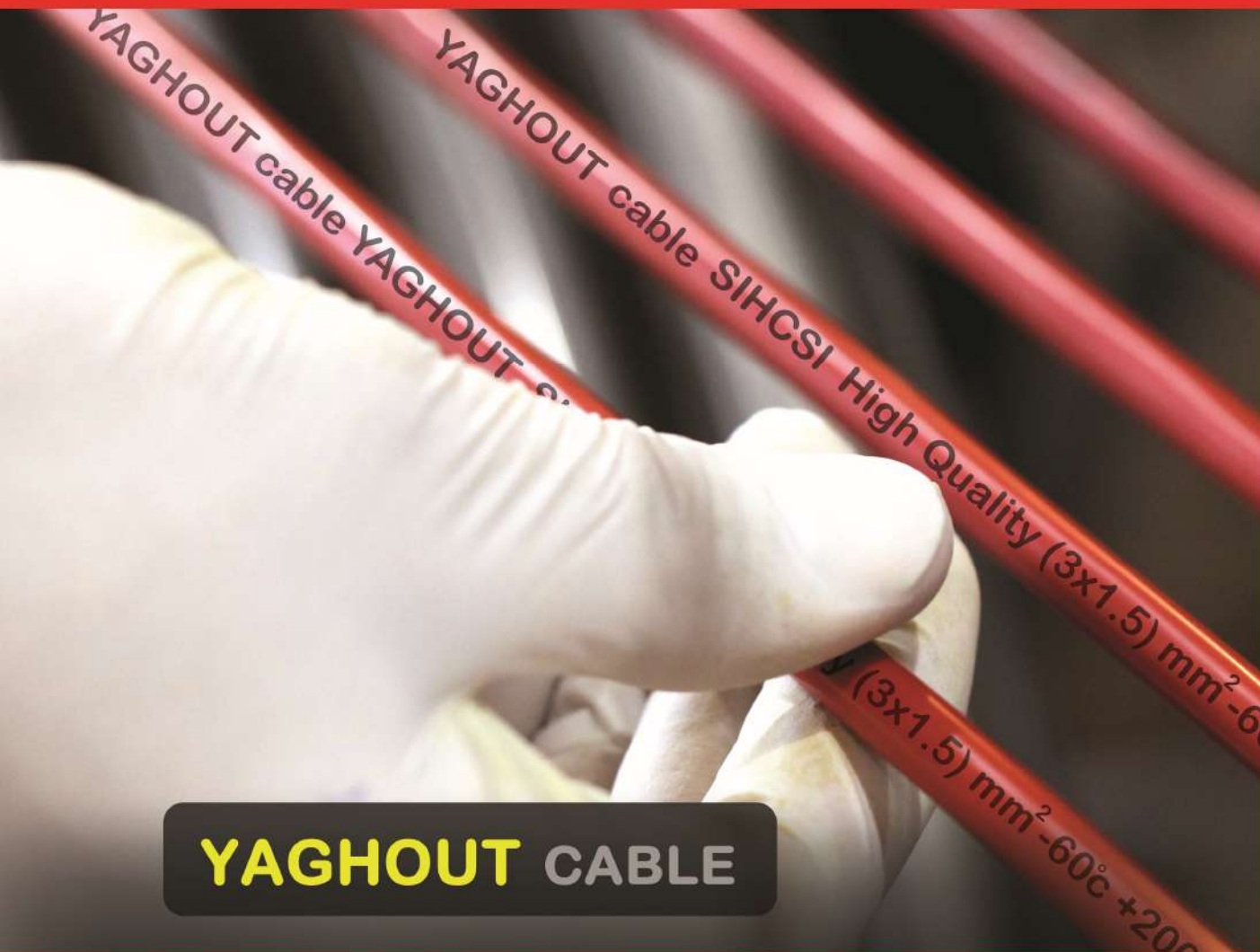


**Specialized Manufacturer of Heat and Fire Resistant  
Wires and Cables**

[www.YaghoutCable.ir](http://www.YaghoutCable.ir)

## YAGHOUT Cable

Manufacturer of silicone wire and cable



# YAGHOUT CABLE

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## About the company

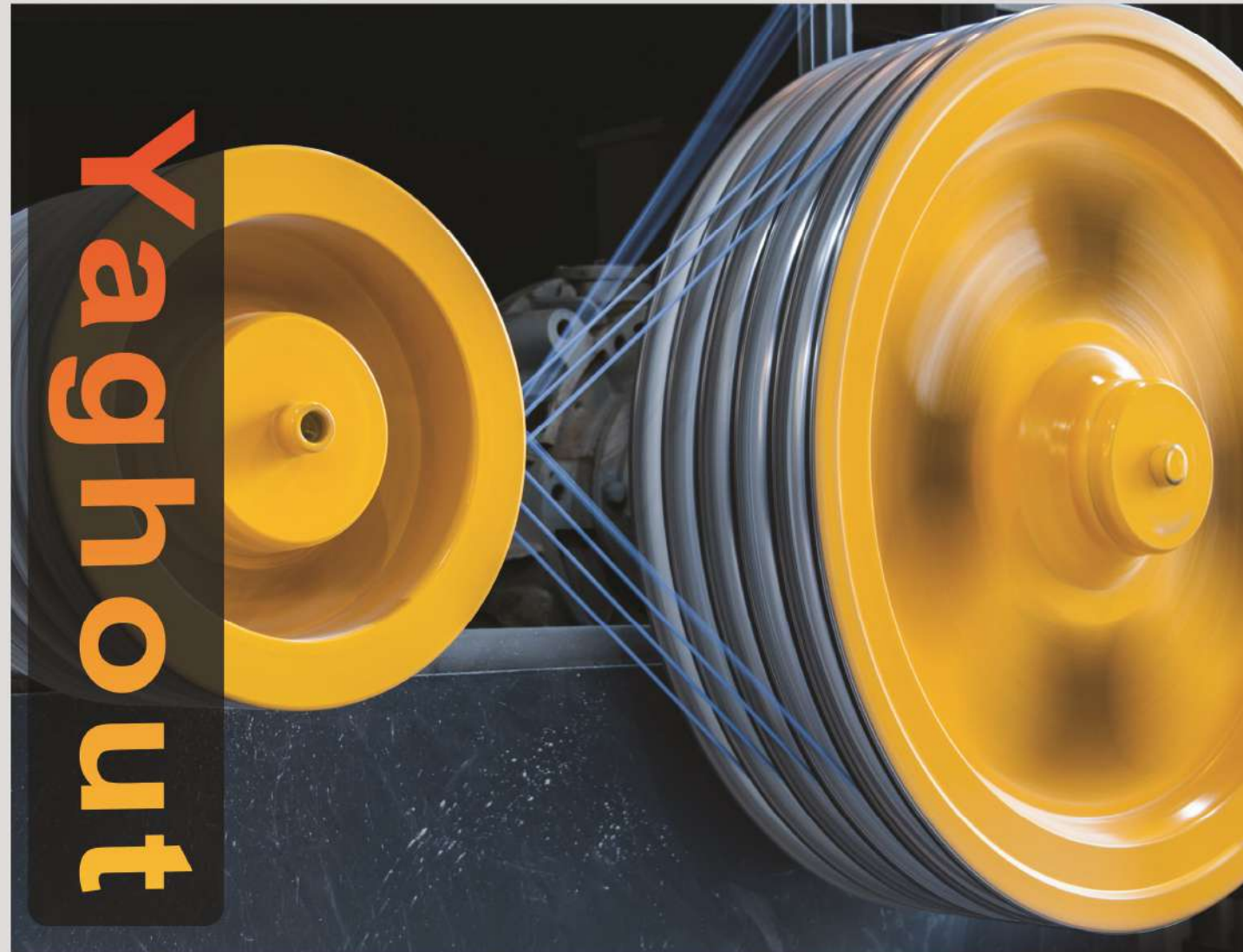
The Yaghout cable company was established in 2006 by Mr. Yaghout Salehian. The target was producing various types of wires and cables with silicone insulation and coating silicone to meet the domestic needs of the country. The company started by producing a variety of wires with silicone insulation and glass fiber coating and also heat-resistant cables with various cross-sections and limited capacity

In 2018, because of the popularity of the company's products, the first development plan of the company was implemented. The new products were fire-resistant cables for fire alarm systems as well as various types of car spark-plug wires

With the construction of the new production line, Yaghout cable succeeded in producing fire-resistant cables in accordance with international standards and at a higher quality level than similar foreign products. In 2021, in response to consumer demand for the product, the company created development plans to produce the fire-resistant cables in accordance with the international standard BS 7629-1. This product, which is based on silicone insulation and special thermoplastic coating of the type LTS3, is of much better quality than similar fire-resistant cables made in foreign countries

Simultaneously with the launch of the company in 2006, Silicon Yaghout built laboratories to test their fire-resistant cables as well as enabling other companies to use them to test their own products

This laboratory has been built to do quality control for wires and cables with silicone insulation, wires and cables coated with PVC, and wire plugs. This laboratory employs very experienced and specialized experts and also uses advanced test equipment. In 2020, this laboratory obtained a certificate of standard from the National Center for Certification of Iran (NACI). It is the first laboratory in Iran which uses this advanced test equipments



Production lines



## Certifications

### Self-declaration license BS 7629-1

This self-declaration certificate is used for self-declaration of fire resistant cable



سال اخذ ۱۳۹۸

### ISIRI 4267-2 standard license

To use the mandatory standard 4267-2 ISIRI for designing and producing a set of car spark plug wires.



سال اخذ ۱۳۹۸

### ISIRI 4267-1 standard license

We use the mandatory standard 4267-1 ISIRI for designing and manufacturing car spark plug wires.



سال اخذ ۱۳۹۸

### ISIRI 1926-4 Standard license

We obtained this license to use the mandatory standard with the characteristic code ISIRI (1926) 53 for the design and production of rubber cables.



سال اخذ ۱۳۹۵

### ISIRI 1926-3 standard license

The Yaghout cable company has obtained the license for the mandatory standard code, ISIRI (1926) 3, for the design and production of silicone wires with fiberglass coating



سال اخذ ۱۳۹۵

### Certificate of fire department

This certificate ensures the resistance of fire alarm and fire extinguishing cables to heat in accordance with IEC 60331-21, BS 6387 and BS 5972 standards



سال اخذ ۱۳۹۵

### ISO 9001

Quality management system certificate from SGS company



سال اخذ ۱۳۹۵

### European CE certificate

European CE certificate is mandating the safety of products for human and environment



سال اخذ ۱۳۹۵

### ISO-IEC 17025

Equipping the Laboratory with an area of 250 square meters to perform all tests related to wires and cables according to IS standard



سال اخذ ۱۴۰۰

### ISO 14001

ISO 14001 environmental management system certificate from SGS



سال اخذ ۱۴۰۰

### BS 50200

Certificate from the Road, Housing and Urban Development Research Center



سال اخذ ۱۴۰۰

The Yaghout Cable company continues doing research and development for creating new products and designing more efficient processes. The results have made the company the leader in this industry.

## Overview of our history and clients

### experiences :

Manufacturer of specialized wires and cables , resistant to heat and fire in accordance with the standards of the world such as: Fire alarm and extinguishing cable, Power cables , Control cables, Instrument cables, Fiber-glass coated cables, Car spark plug wire cables .

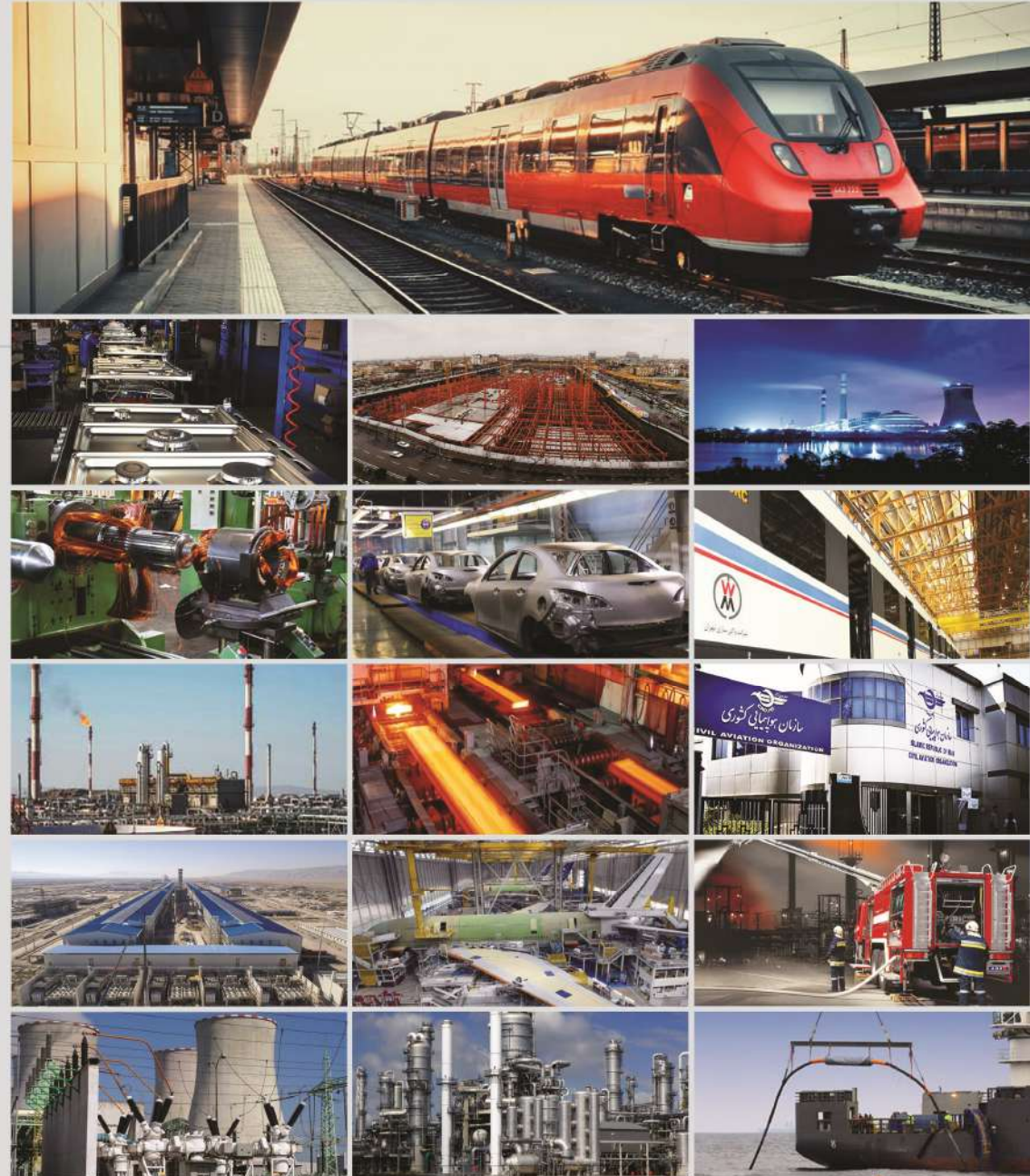
Production of silicone compounds according to the needs of customers and datasheets and Submitted samples of them.

Production of tin-plated copper conductors from 15 to 30 cross section.

#### Our customers

	Tabriz and suburbs city train organization
	Railway Company of the Islamic Republic of Iran (Raja)
	Wagon manufacturing companies
	Khuzestan Steel - Steel Industries
	National Aviation Organization
	Iran Oil Company
	Motogen Company
	Tehran and Suburbs Urban Railway Operation Company
	Telecommunications Infrastructure-Telecommunication Company
	Companies implementing and designing fire alarm systems
	Fire department
	Iran Khodro Company
	State Documents Organization
	Judicial organization of the country
	Universities of medical sciences all over the country
	Pasargad bank
	Mellat Bank
	Zarand Iranian Steel Company (Kerman)
	Tourism Bank

	Pars Petrochemical (Chadormelo)
	Bahman Automotive Group
	Imam Khomeini International Airport
	Lordegan Petrochemical Company
	Mapna Group
	Housing cooperative of government employees
	Hospitals all over the country
	Islamic Revolution Housing Foundation
	Aluminum Industries - Lamerd Kerman
	Country Social Security Organization
	Astan Quds Razavi Organization
	Isfahan steel company
	Phenomenon project
	Nab Arash Alborz Steel Complex
	Sarcheshmeh Copper Company
	Housing of employees of Khorasan Province Finance Company
	Residential project of Mashhad seminary
	Shahid Hasheminejad Hospital, Mashhad
	Ports and Shipping Organization of the country



## How heat-resistant and fire-resistant silicon wires and cables are used

Fire alarm and extinguishing systems , Making Wagons and railways , Subway, Petrochemical and refinery industries, military industries, Military rigs , Shipbuilding industries, Food industry ,Medical industry, Electronic industries of the country, Household appliance industry, Factories and workshops have high temperature production lines as well as academic centers and schools , Hotels and all places of high security sensitivity operation



Petrochemical and Refining industries

The silicon wires and cables are used in fire alarm systems and also locations where the wires are exposed to chemicals, UV rays, and adverse weather conditions.



Home appliance industry

Heat-resistant wires and cables are used in home appliances whether they operate at high or low temperatures. These wires and cables are also used with home appliances that require cables with high flexibility, such as cables for irons, rice cookers, and electric heaters. Also, spark plugs and other wires are used in stoves, ovens, etc.



Rail industries

Train cars and railway stations are on busy train routes, where it is required to use heat-resistant and fire-resistant wires and cables that do not emit toxic gases, and that are low-smoke and flame-resistant.



Automotive industry

Wires and cables are used in the automotive industry in vehicles as spark plug cables to transfer power from the battery to the combustion chamber of the engine and create sparks in it. As well, the sparkplug cables create sparks in cars in their fog lights, which operate at high temperatures.



Steel industries

In the steel industry, smelting furnaces with very high temperatures are used, and the temperature surrounding can reach up to more than 1500°C. Therefore, they mainly use heat-resistant and fire-resistant wires and cables near furnaces.



Shipbuilding industry

In the construction of ships and ports, because of bad weather conditions and the high sensitivity of the region, it is required to use heat and fire resistant cables.



## What is an electrical conductor?

# YAGHOUT Cable

Electrical conductors, such as wires and cables, must transmit electricity with minimal power loss. Electrical conductors can be sorted by power flow, from high to low, as follows: gold, silver, copper, and aluminum .

Most conductors used in wires and cables are made of aluminum and copper, and these conductors are classified into four main groups, as follows

)Group 1: single-wire conductors (dry

)Group 2: twisted conductors (semi-sprayed

)Group 3: flexible conductors (spray

Group 4: flexible conductors that have more flexibility than other groups

The conductors of silicon cable products are ruby and copper. These conductors are produced in both tin-plated and non-tin-plated forms. Tin-coated copper conductors are often used in silicon wires and cables, as tin-plated copper increases its thermal performance by up to 10°C, as well as increasing the resistance of copper to moisture, corrosive gases, and oxidation .





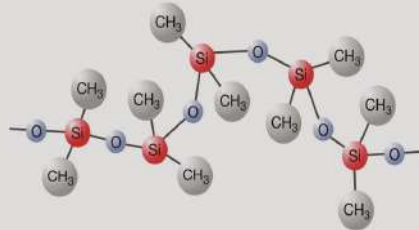
## What is silicon?

Silicon was first discovered in South America. The element silicon, which contains silica with the chemical symbol Si in the periodic table of chemical elements, is extracted from sand. The process of making silicon is very complex and involves many steps. In brief, this production process involves extracting silicon from silica and then transferring it through hydrocarbons and then combining this with other chemicals to achieve various types and shapes of silicone.

Silicones are synthetic compounds, with a great variety of shapes and functions. They are resistant to C. These silicones are  $^{\circ}F_{+}$  to  $^{\circ}F_{-}$  temperatures of composed of the inorganic compound Si-O and they make organic functional groups.



This silicon-oxygen bonding results in high thermal resistance and flexibility over a wide range of temperatures. Based on scientific research, other properties of silicon include its high resistance to adverse environmental conditions such as intense and direct sunlight, high humidity, dry air, ozone, ultraviolet rays, and oils and fuels with high molecular weight. It can be said with confidence that it will not lose its physical and chemical properties for decades.



## What is a silicone compound?



=



+



+



+



Solid HTV silicone compounds used in insulation and coating of wires and cables are composed of several components, which include silicon + powders (to improve some properties and conditions of silicon) + pigments + stabilizers. Compounds based on standards available and requested by the customer are formulated and combined.

What is peroxide? The two major chemical processes by which cooking occurs are the peroxide and sulfur systems. Peroxide systems are more diverse because they can be used to bake saturated and unsaturated polymers, providing a wider choice of elastomers and more cost-saving opportunities.



The best way to combine and homogenize silicon with other additives is as follows:

Combine well HTV silicone rubber with formulated additives other than stabilizers (peroxide) in a mixer.

Place the combined compound on the rolling mill (roller) and accelerate the homogenization of the silicone compound with repeated cuts. In the last stage of compounding, add peroxide to the compound as a stabilizer for silicon curing. Homogenization must be done well on the rollers so that an equal proportion of additives, peroxide, and pigments are present in all areas of the compound.

“

The percentage of the mixing of peroxide and other additives is very important because an error can adversely affect the properties of silicon and the age of wires and cables

”



## Advantages of heat and fire-resistant wires and cables

- 01 Resistant to heat and cold
- 02 Temperature tolerance - $50^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- 03 Low Smoke
- 04 Halogen Free
- 05 Flame Retardant
- 06 Resistant to infrared, ultraviolet, gamma rays and unaffected by ozone gas
- 07 Resistant to adverse weather conditions such as high humidity and dry environments
- 08 High flexibility and formation in different cross sections while maintaining the stability of electricity flow
- 09 Resistant to high molecular weight oils such as fats, saline or dilute acids and alcohols  
And so on.



# YAGHOUT CABLE



## Products of Yaghout Cable Company



**SIF**  
Silicone refractory wire



**SIHSI-SWB**  
Armored silicone refractory cable



**SI-F-GL**  
Silicone refractory wire with fiberglass coating



**GLSI-SIHC**  
Refractory silicone foil and fire-resistant shield



**SIHSI**  
Heat resistant cable



**SIHSI**  
Cold-resistant silicone fireproof cable



**SIHSI**  
Ironing cable



**SPARK PLUG WIRE**  
Silicone spark plug wire



**ISCR/OSCR**  
Heat resistant instrument cable



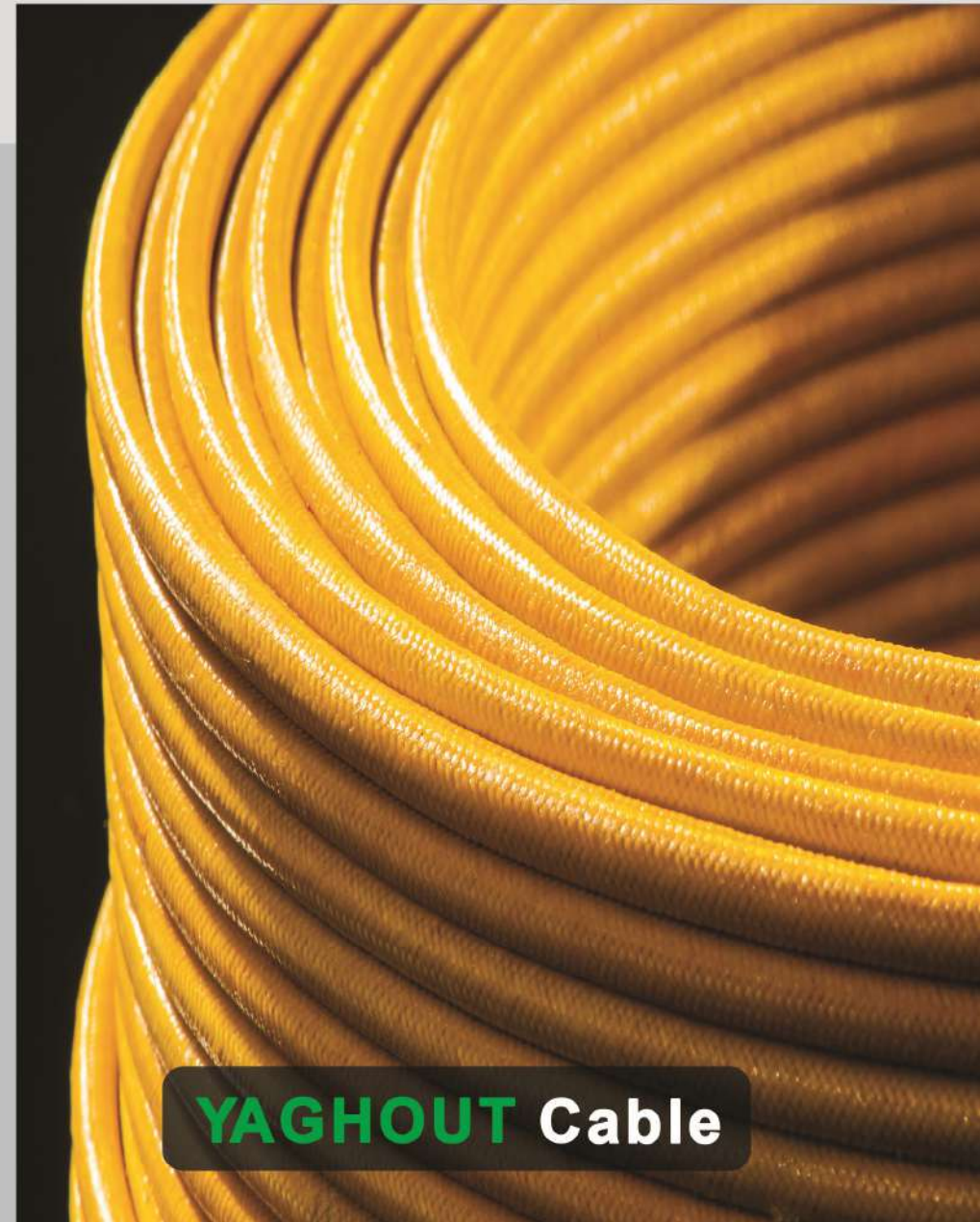
**HV CABLE**  
High voltage silicone refractory cable 100 kv



**SIHCSI**  
Silicone refractory control cable



**IGNITION CABLE**  
Silicone spark cable

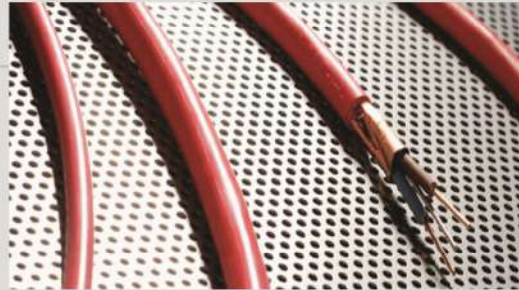


# YAGHOUT Cable



## Fire alarm and extinguishing cables

It is required to use fire resistant cables under fire condition, in fire alarm systems, to maintain the stability of the circuit and the connection between the fire extinguishing equipment and the control panel. One of the best cables is a that is produced in accordance with BS 7629-1 and standards. The test methods are IEC 60331-21, BS 6387 and BS. 50200



### Specifications of fire alarm cable

- Low Smoke according to IEC 61034-1 / 2
- Halogen Free or free of halogen toxic gases according to IEC 60754-1
- Flame Retardant according to IEC 60332-1-2 / 3
- Fire Resistant according to IEC 60331-21 and Foil & Shield
- Foil & Shield



## Fire resistant cables

Fire-resistant cables are mainly used in fire alarm systems, buildings, and areas with high sensitivity in terms of data transmission as well as high-traffic areas. These cables are designed to maintain circuit integrity and data transmission in case of fire. The standard of construction and design of this type of cables (BS 7629-1) guarantees all the specifications related to the structure, voltage, test methods, and the resistance of this type of cables against fire. The test methods include

IEC 60331-21, BS 6387 and BS 50200 standards that cover the integrity of the circuit during a fire under the following conditions

### IEC 60331-21

Resistance to fire and maintain circuit integrity for 90 minutes at 750 ° C

### BS 6387-CAT CWZ

Cat c Resistant to fire and maintain circuit integrity for 180 minutes at 950 ° C

Cat w Resistant to fire and water and maintain the integrity of the circuit for a long time (15 minutes of fire and  $\Delta$  minutes of simultaneous fire and water spray) at a temperature of 650 degrees Celsius

Cat z Resistant to fire and mechanical shock and maintains circuit integrity for 15 minutes at 950 ° C, under mechanical shock every 30 seconds

### BS 50200

Resistant to fire and mechanical shock and water by maintaining circuit integrity for 30, 60 or 120 minutes at 830 ° C, under mechanical shock every 5 minutes



- IEC 60332-1-2 and IEC 60332-3  
Testing the resistance of cables to flame propagation along the cable
- IEC 61034-2  
For assessing the density of smoke generated during cable burning under the Low Smoke
- IEC 60754-1 and IEC 60754-2  
Method to check the presence of halogen gases, the degree of acidity and conductivity of these gases, due to burning of the cable



## Spark plugs

All fuel vehicles (petrol and diesel) use spark plugs and spark plugs to complete the combustion process in their engines. The task of spark plug wires, is to transfer power from the car battery to the spark plug and creates a spark caused by the cut-off and connection of the power to complete the combustion process in the car engine In the car.

engines, because of the hot, oily, fuel, and dusty atmosphere, using fireproof and resistant silicone coating is inevitable.

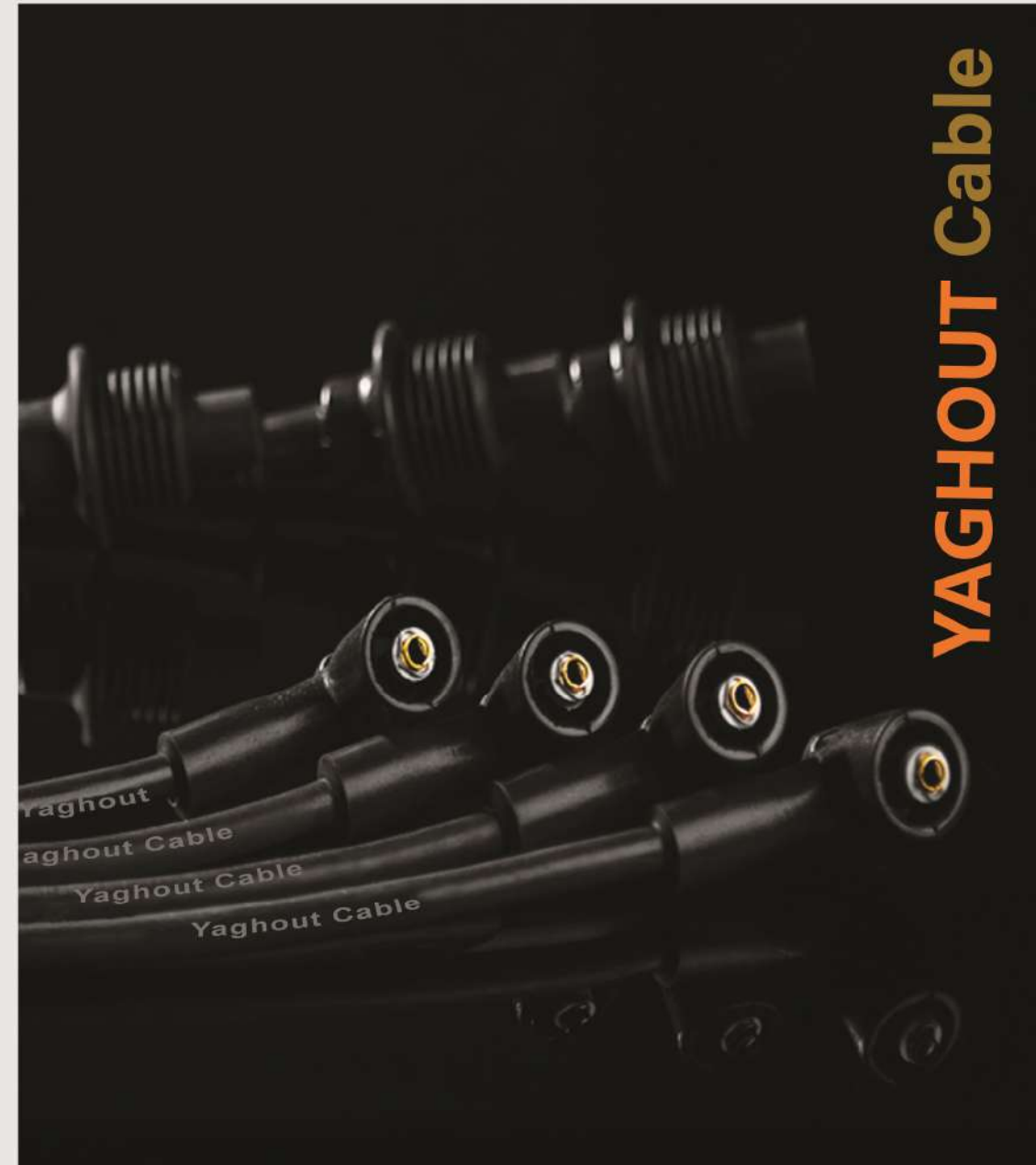
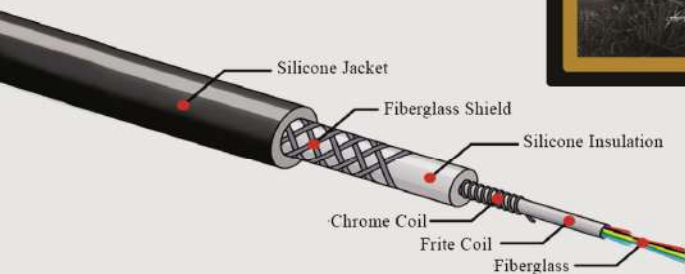
Previously, for the Spark Plug, manufactures were using fiberglass double-coated wires with Teflon or XLPE insulation.

But gradually these expensive and, damageable insulators were replaced by silicone insulators, and plus the caps of these wires are made of silicon.

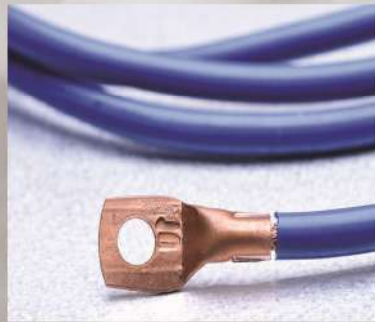
### Spark Plug structure

The complexity of the Spark Plug is because of being multi-layered, which makes it much more difficult to produce separate layers to better transfer DC power from the battery to the  $\delta$  than other cables. This product consists of motor spark plug :

- ▣ First layer: Fiberglass
- ▣ Second layer: Fritecoil
- ▣ Third layer: Chromite coil
- ▣ Fourth layer: Silicone insulation
- ▣ Fifth layer: Fiberglass shield
- ▣ Sixth layer: Silicone jacket



## Set of Silicone wires



## Set of Silicone wires

Wires are used to transmit commands in electrical equipment as well as to distribute electricity generated from the electrical source to other parts of the machine. In cases where there is a need to transfer heavy data, to create order and integration, they are used a set of wires that are in various sizes and types of plugs according to the required map. Wire groups are used in the electrical industry, such as electrical appliances and cars because of high-temperature areas and always consider customer satisfaction as our priority.





## Introducing specialized wire and cable laboratory

One of the success tools of our company is performing quality control tests on products design, selecting of initial materials, production line, and final product.

Specialized laboratory for quality control of silicone Yagout cable is one of the largest and most complete laboratories in Iran because of using an area of more than 1000 square meters, up-to-date equipment for testing all kinds of silicone, rubber and P.V.C wires and cables, and the technical knowledge of experienced and specialized experts.

This laboratory can perform all tests related to all types of wires and cables in accordance with national and international standards, since we utilize the advanced equipment and in accordance with the current technology in the world, and with specialized and committed experts.

Test procedures, test quality control and equipment management comply with the requirements of ISO / IEC 17025. Therefore, we do the tests with the decision rule and compliance statements desired by customers, as well as with considering the uncertainties, we ensure the accuracy and precision.



### Approval Certificates

- BS 7629-1
- ISIRI 1926-3
- ISIRI 1926-4
- ISIRI 4267-1
- ISIRI 4267-2
- ISO 9001:2015
- ISO 14001:2015
- ISO 17025:2017

Specialized  
wire & cable  
laboratory



## Ruby wire and cable reference laboratory

### Laboratory services:

- 1 All dimensional tests with an accuracy of 0.001 mm for in the field of wires and cables, etc
- 2 Performing tensile strength and elongation tests on various types of insulation and coating
- 3 All cooling tests up to the minimum temperature
- 4 All heating tests up to the maximum temperature
- 5 Perform electrical tests up to a maximum voltage of 60 KV
- 6 Performing wire and cable insulation resistance tests
- 7 Conducting electrical resistance tests
- 8 Flame Retardant Test
- 9 Performing Halogen Free Emission Tests
- 10 Measure the PH of liquids
- 11 Perform circuit integrity test under fire conditions at (750-950) ° C
- 12 Performing a test to measure the density of smoke from burning (Low Smoke)
- 13 Performing aging tests on various oils (including ASTM1 and ASTM2 oils) and fuels, etc
- 14 Rubber hardness measurement (Shore A)
- 15 Density measurement with an accuracy of 0.001 g
- 16 Perform pressure test at high temperature
- 17 Perform low temperature impact test
- 18 Perform bending test at low temperature

- 19 Perform heat hardness test for different types of insulation
- 20 Perform mesh test or granulation of powder particles
- 21 Performing an antiquity test in Ben Marie bath
- 22 Preparation of dumbbell form tablets and rubber sheets
- 23 Flexibility test of flexible cables
- 24 Lifting cables flexibility test
- 25 Testing of various types of coatings and insulations against ozone gas
- 26 Corona test and accelerated lifespan
- 27 All cable and Spark plug tests
- 28 Salt Spray test (salt fog)
- 29 Coating resistance test against mineral oil
- 30 All tests of network cables and telecommunication cables
- 31 All thermal coating tests



## Wire and cable laboratory equipment



Acid gas emission test

▶ The purpose of this test is to determine the acidity of the exhaust gases in accordance with IEC 60754-1 / 2 while the cable burns



PH measurement test

▶ A device called an acid meter or pH meter is used to measure the acidity or alkalinity of liquids



Smoke density measurement test

▶ The purpose of this test is to measure the density of smoke according to IEC 61034-2 due to combustion of wire or cable



Fire resistance test (cat C)

▶ The purpose of this test is to observe in accordance with BS 6387 and IEC 60331-21, the integrity of the circuit under fire conditions alone at the rated voltage of the cable



Fire resistance test (cat W)

▶ The purpose of this test is to observe the integrity of the circuit under fire conditions with water spray at the rated voltage of the cable in accordance with standard 6387 BS



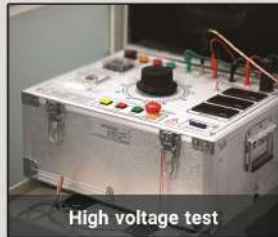
Fire resistance test (cat Z)

▶ The purpose of this test is to observe the integrity of the circuit under fire conditions with mechanical shock at the rated voltage of the cable in accordance with BS 6387 and BS 50200



Flame propagation time

▶ The purpose of this test is to observe the behavior of wires and cables against vertical flame emission under fire conditions in accordance with ISIRI 3081-1-2 and ISIRI 4267-1



High voltage test

▶ The purpose of this test is to ensure that there is no leakage and tolerance of the product against working voltage by applying a several times higher than the working voltage in a shorter time to the wire and cable



Insulation resistance test

▶ The purpose of this test is to measure the insulation resistance of the cable against current flow and voltage tolerance according to ISIRI 3569-1, ISIRI 1926-2, etc



Conductor electrical resistance test

▶ The purpose of this test is to measure the ohmic resistance of each meter of conductor used in wires and cables in accordance with ISIRI 3084 standards



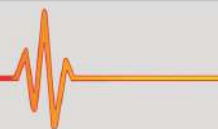
Dimensional test

▶ The purpose of this test is to observe that the wire and cable located in center and measure the thickness and diameter of the insulation and cover of the wire and cable



Tensile strength and elongation test

▶ The purpose of this test is to measure the maximum tensile stress due to pulling the specimen at the rupture point and the ratio of increasing the length of the specimen at the rupture point to the initial length of the specimen (as a percentage)



## Wire and cable laboratory equipment



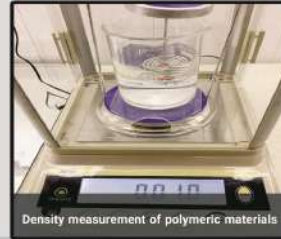
Heating test (high temperature aging)

▶ The purpose of using this equipment is to observe the performance of the product over time in specific temperature conditions and to record changes in the mechanical characteristics of the product after applying heat to the insulation and coating



Cooling-aging test at low temperature

▶ The purpose of using this test is to observe the performance of the product over time at low temperatures, which is used in various tests such as impact in cold and bending in cold and tests of cable wax obsolescence



Density measurement of polymeric materials

▶ The purpose of this test is to measure the density or specific gravity of each part, which is measured according to ASTM D 1622-03



High temperature pressure test

▶ This equipment is done according to ISIRI 5525-508 standard to check rubber covers accurately against high temperature pressure



Rubber hardness measurement

▶ We test, the compound rigidity used for wire and cable insulation according to ASTM D 2240 standard



LCR meter test

▶ The purpose of this test is measuring the electrical resistant, capacitance, and conductor inductor capacity



Bending test at Low temperature

▶ The purpose of this test is to check the mechanical behavior and measure the bending of insulation and coating of the extruded cables at low temperature which is according to the ISIRI 5525-504 standard



Impact test at low temperature

▶ The purpose of this test is to check the mechanical behavior of insulation and coating of wires and cables at low temperatures according to ISIRI 5525-506 standard



Heat hardness test

▶ The purpose of this test is to measure the increase in the length of insulation and coating of the cables due to an accelerated aging, which is measured and calculated according to the ISIRI 5525-507 standard



Flexible test of flexible cables

▶ The purpose of conducting this test is to check the flexibility of flexible cables during power flow. The test is based on ISIRI 1926-2 and ISIRI 607-2 standards



Temperature and humidity chamber

▶ The purpose of using this equipment is to prepare the cable sample under the conditions that specified in the relevant standards



Banmari bathroom

▶ The purpose of using this equipment is to perform an aging test in all types of fluids at high temperature and time specified in the relevant standards, including fuels, mineral oil ASTM No. 1 and 2 and some other fluids



## Wire and cable laboratory equipment



Indexes of wire cable tensile tests

▶ The purpose of this test is to check the connection of the wire cable to its terminals and the amount of externalization and internalization force of the terminals from the relevant indicators



Mechanical strength of wire cable

▶ This equipment is related to applying the force of 180N and 250N to the cable wire in order to check the difference in ohmic resistance measured before and after applying this force



Salt fog Spray device

▶ The salt spray device is installed in order to simulate the corrosion of the metal parts of the wire and cable, such as its terminals



High flexibility station of cables

▶ This equipment is used to check the flexibility of elevator cables during power flow based on ISIRI 607-6 standard



Ozone gas chamber

▶ This chamber is designed to check the resistance of all types of insulation and coatings against Ozone gas



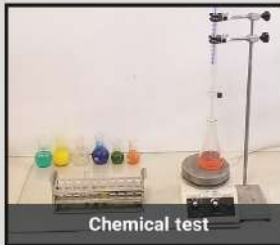
Network cable testing device

▶ To perform all electrical tests of network cables up to CAT6 and telecommunication cables



Twisting machine

▶ Cable twisting device on the relevant bars to perform Corona test and accelerated life span based on SIRI 4267-1 standard



Chemical test

▶ Halogen acid gas determination test by titration method and chemically based on ISIRI 20875-1 standard



Equipping HV wire cable set

▶ The sealing test of the wire and cable along with the oscilloscope device that shows the voltage graph in terms of time



Elongation at low temperature

▶ To examine the mechanical properties of the jacket and insulation of cables at low temperature according to the ISIRI 5525-505



Thermal aging test and air pump

▶ With a pressure of about 0.6 mps to examine the mechanical properties of insulation and jacket of cables against temperature under pressure according to the ISIRI 5525-412 test method standard



Thermal stability test

▶ According to the ISIRI 5525-405 test method standard



## Mechanical properties of silicone compound

Yaghout Cable Company to improve the quality of its products in the field of mechanical and physical properties of silicon rubber, has purchased a rubber molding machine to produce silicone tablets and sheets. These sheets are used for mechanical tests such as tensile strength, compensation elongation and compressive strength for insulation and coating of the final product. And also the tablets are used to calculate the hardness of the compound

We are proud to provide services and training to our customers on the technical issues of our products to help them to a conscious and correct choice of silicone wires and cables. Therefore, we provide customers the samples of tablets and sheets prepared from the compound used in insulation and coating of wires and cables along with datasheets and test reports of purchased products



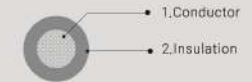
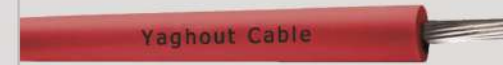


**YAGHOUT CABLE**



Number of Cond. x Cross Section (mm)	Number of Stranding x Single Core Diameter	Nominal Thickness of Insulation (mm)	Overall Diameter (mm)	Approx Weight kg/km
1 X 0.25	8 x 0.186	0.6	1.9	4.3
1 X 0.50	16 x 0.186	0.6	2.1	8
1 X 0.75	24 x 0.186	0.6	2.2	11
1 X 1.0	32 x 0.186	0.6	2.5	14
1 X 1.5	32 x 0.227	0.7	2.8	19
1 X 2.5	52 x 0.227	0.8	3.4	30
1 X 4.0	56 x 0.282	0.8	4.2	48
1 X 6.0	84 x 0.282	0.8	5.2	71
1 X 10	80 x 0.388	1.0	7.0	120
1 X 16	125 x 0.386	1.0	8.4	180
1 X 25	196 x 0.386	1.2	10.3	290
1 X 35	266 x 0.386	1.2	11.6	400
1 X 50	728 x 0.282	1.4	13.9	550
1 X 70	570 x 0.386	1.4	16.0	750
1 X 95	740 x 0.386	1.6	18.4	1000
1 X 120	931 x 0.386	1.6	20.0	1260

## SIF Single Core Silicone Rubber Insulated Wire

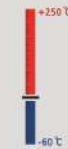


### Silicone Wire

Single core silicone wires that are used in high and low temperatures -60c +200c and also places that need high flexibility are produced as SIF.

Silicone wires are not only resistant against heat, but also oil, alcohol, acid and fuel proof. Low smoke and halogen free are other advantages of silicone wires.

### Temperature range



### Insulation color

One core



### Applications



### Technical Data

**Temperature range**  
-60c +200c  
(Short-time use:250c)

**Burning characteristics**  
Flame retardant and self-extinguishing acc.to IEC 60332-1-2

**Acid gas emission**  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

**Smoke density**  
In acc.to IEC 61034-2

**Nominal voltage**  
300v / 500v

**Testing voltage**  
2000v

### Construction

**1.Conductor**  
Flexible stranded tinned copper,acc.to IEC 60228,EN 60228, VDE 0295,class 5

**2.Insulation**  
Silicone rubber type IE2 to IEC 60245-1

**3.Color**  
On request

### Standards

IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2





## Applications



## Packaging

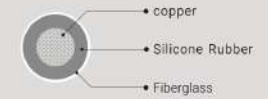


## Standards



Core and Size mm sq	Stranding Number of Strand/Strand Diameter	Nominal Thickness of Insulation mm	Nominal Overall Diameter, mm	Approx Weight kg/km
1 X 0.25	8 x 0.186	0.6	2.4	7.9
1 X 0.50	16 x 0.186	0.6	2.6	12.6
1 X 0.75	24 x 0.186	0.6	2.9	16.0
1 X 1.0	32 x 0.186	0.7	3.0	18.4
1 X 1.5	32 x 0.227	0.8	3.4	23.7
1 X 2.5	52 x 0.227	0.8	4.0	35.6
1 X 4.0	56 x 0.282	0.8	4.7	53.3
1 X 6.0	84 x 0.282	1.0	5.7	77.3
1 X 10	80 x 0.388	1.0	7.3	129.2
1 X 16	125 x 0.386	1.2	8.9	198.6
1 X 25	196 x 0.386	1.2	10.8	302.5
1 X 35	266 x 0.386	1.2	12.1	413.0
1 X 50	728 x 0.282	1.4	14.5	578.0
1 X 70	570 x 0.386	1.4	16.5	815.0
1 X 95	740 x 0.386	1.6	18.9	1100.0
1 X 120	931 x 0.386	1.6	21.0	1360.0

## SIF-GL Single Core Silicone Rubber Insulated Wire With Fiberglass Braid



## Silicone wire with fiberglass braid

Silicone wire with fiberglass braid is a high temperature single conductor silicone wire with a heat resistant fiberglass braid recommended to be used in applications where temperature exceeds the maximum rating of traditional and rubber insulated wires. Recommended applications include foundries, steel mills and glass factories and other high temperature processes or require a high mechanical resistance and wherever an overall

## Temperature range

Insulation color  
One core

## Applications



## Technical Data

Temperature range  
-60c +200c  
(Short-time use:250c)

Burning characteristics  
Flame retardant and self-extinguishing acc.to IEC 603332-1-2

Acid gas emission  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

Smoke density  
In acc.to IEC 61034

Nominal voltage  
300v / 500v

Testing voltage  
2000v

## Construction

1. Conductor  
Flexible stranded  
tinned copper, acc.to IEC 60228, EN60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type  
IE2 to IEC 60245-1

3. Color  
On request

## Standards

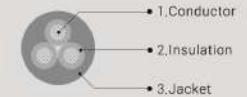
IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2





Number of Cond. x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter (mm)	Approx Weight kg/km
2 x 0.25	13 x 0.15	0.6	0.8	4.5	40.0
2 x 0.5	16 x 0.186	0.6	0.8	5.1	48.0
2 x 0.75	24 x 0.186	0.6	0.8	5.9	53.0
2 x 1.0	32 x 0.186	0.6	0.9	6.3	60.0
2 x 1.5	32 x 0.227	0.8	1.0	7.0	82.0
2 x 2.5	52 x 0.227	0.9	1.1	8.3	135.0
2 x 4.0	56 x 0.282	1.0	1.2	10.3	191.0
2 x 6.0	84 x 0.282	0.8	1.5	12.0	274.0
3 x 0.75	24 x 0.186	0.6	0.9	6.9	64.0
3 x 1.0	32 x 0.186	0.6	0.9	7.1	78.0
3 x 1.5	32 x 0.227	0.8	1.0	7.8	98.0
3 x 2.5	52 x 0.227	0.9	1.1	9.5	152.0
3 x 4.0	56 x 0.282	1.0	1.2	11.5	224.0
3 x 6.0	84 x 0.282	0.8	1.5	13.0	338.0
4 x 0.75	24 x 0.186	0.6	0.9	7.2	84.0
4 x 1.0	32 x 0.186	0.6	0.9	7.9	95.0
4 x 1.5	32 x 0.227	0.8	1.1	8.6	122.0
4 x 2.5	52 x 0.227	0.9	1.2	10.3	189.0
4 x 4.0	56 x 0.282	1.0	1.3	13.7	295.0
4 x 6.0	84 x 0.282	1.1	1.8	16.0	442.0
4 x 10	96 x 0.352	1.3	1.8	20.0	707.0
4 x 16	125 x 0.386	1.3	2.0	23.0	987.0
5 x 0.75	24 x 0.186	0.6	1.0	8.9	101.0
5 x 1.0	32 x 0.186	0.6	1.0	9.1	116.0
5 x 1.5	32 x 0.227	0.8	1.1	10.3	148.0
5 x 2.5	52 x 0.227	0.9	1.3	11.5	229.0
5 x 4.0	56 x 0.282	1.0	1.4	14.4	359.0
5 x 6.0	84 x 0.282	1.1	1.8	17.6	535.0
6 x 0.75	24 x 0.186	0.6	1.0	8.6	117.0
6 x 1.0	32 x 0.186	0.6	1.0	9.5	135.0
6 x 1.5	32 x 0.227	0.8	1.0	10.3	173.0
6 x 2.5	52 x 0.227	0.9	1.2	11.5	268.0
6 x 4.0	56 x 0.282	1.0	1.8	14.7	441.0
6 x 6.0	84 x 0.282	1.1	1.8	18.5	630.0

## SIHSI Multicore Silicone Rubber Insulated and Jacketed Cable



## Silicone Cable

Silicone Cable is a heavy duty, multi conductor, silicone insulated control cable with tear resistant silicone

jacket. This cable is recommended to be used in applications where high temperatures, UV light and mechanical abuse rapidly cause other cables to deteriorate. The silicone cable is a flexible, cost effective, high temperature cable.

Recommended applications include foundries, steel mills, glass factories, baking equipment, burners, heating and lighting systems. This cable can also be used anywhere salt water is present, and high temperature processes are utilized.

Temperature range



Color of cores & jacket



Applications



## Technical Data

Temperature range  
-60°C +200°C  
(Short-time use: 250°C)

Burning characteristics  
Flame retardant and self-extinguishing acc. to IEC 603332-1-2

Acid gas emission  
In acc. to IEC 60754-1  
In acc. to IEC 60754-2

Smoke density  
In acc. to IEC 61034-2

Nominal voltage  
300V / 500V

Testing voltage  
2000V

## Construction

1. Conductor  
Flexible stranded tinned copper, acc. to IEC 60228, EN 60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type IE2 to IEC 60245-1

3. Jacket  
Silicone rubber type IE2 to IEC 60245-1

4. Color  
In accordance with the VDE 0293-308

## Standards

IEC 60245-1  
IEC 60245-4  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2



## YAGHOUT CABLE



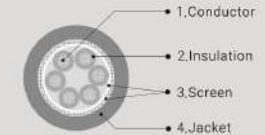
Number of Cond. x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter (mm)	Approx Weight kg/Km
7 x 0.75	84 x 0.282	0.6	1.0	9.8	125.0
7 x 1.0	24 x 0.186	0.6	1.0	10.5	144.0
7 x 1.5	32 x 0.186	0.8	1.0	11.7	187.0
7 x 2.5	32 x 0.227	0.9	1.2	13.7	293.0
7 x 4.0	52 x 0.227	1.0	1.5	16.1	481.0
7 x 6.0	56 x 0.282	1.1	1.8	19.5	685.0
8 x 1.5	84 x 0.282	0.8	1.7	12.0	238.0
12 x 1.5	32 x 0.227	0.8	1.7	14.9	332.0
12 x 2.5	32 x 0.227	0.9	1.8	18.3	580.0
16 x 1.5	52 x 0.227	0.8	1.8	18.0	427.0
20 x 1.5	32 x 0.227	0.8	1.8	19.0	549.0
24 x 1.5	32 x 0.227	0.8	1.8	20.0	635.0





Number of Cond. x Cross Section (mm <sup>2</sup> )	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter(mm)	Approx Weight kg/km
2 x 0.5	16 x 0.186	0.6	0.8	6.4	59.0
2 x 0.75	24 x 0.186	0.6	0.8	7.0	72.0
2 x 1.0	32 x 0.186	0.6	0.9	7.2	79.0
2 x 1.5	32 x 0.227	0.8	1.0	8.2	103.0
2 x 2.5	52 x 0.227	0.9	1.1	9.8	149.0
2 x 4.0	56 x 0.282	1.0	1.2	11.6	221.0
2 x 6.0	84 x 0.282	1.1	1.5	14.2	316.0
2 x 10.0	96 x 0.352	1.3	1.8	16.6	446.0
2 x 16.0	125 x 0.386	1.3	1.8	20.4	675.0
3 x 0.5	16 x 0.186	0.6	0.8	6.7	72.0
3 x 0.75	24 x 0.186	0.6	0.9	7.4	88.0
3 x 1.0	32 x 0.186	0.6	0.9	8.0	105.0
3 x 1.5	32 x 0.227	0.8	1.0	8.6	128.0
3 x 2.5	52 x 0.227	0.9	1.1	10.3	189.0
3 x 4.0	56 x 0.282	1.0	1.2	12.3	281.0
3 x 6.0	84 x 0.282	1.1	1.5	15.0	407.0
3 x 10	96 x 0.352	1.3	1.8	17.6	589.0
3 x 16	125 x 0.386	1.3	1.8	21.9	935.0
4 x 0.5	16 x 0.186	0.6	0.9	7.3	86.0
4 x 0.75	24 x 0.186	0.6	0.9	8.4	114.0
4 x 1.0	32 x 0.186	0.6	0.9	8.7	129.0
4 x 1.5	32 x 0.227	0.8	1.1	9.4	158.0
4 x 2.5	52 x 0.227	0.9	1.2	11.4	249.0
4 x 4.0	56 x 0.282	1.0	1.3	14.0	367.0
4 x 6.0	84 x 0.282	1.1	1.5	16.4	509.0
4 x 10.0	96 x 0.352	1.3	1.8	19.9	774.0
4 x 16.0	125 x 0.386	1.3	2.0	24.4	1196.0
5 x 0.5	16 x 0.186	0.6	1.0	8.0	107.0
5 x 0.75	24 x 0.186	0.6	1.0	8.8	135.0
5 x 1.0	32 x 0.186	0.6	1.0	9.4	150.0
5 x 1.5	32 x 0.227	0.8	1.1	10.5	188.0
5 x 2.5	52 x 0.227	0.9	1.3	12.4	293.0
5 x 4.0	56 x 0.282	1.0	1.4	15.1	438.0
5 x 6.0	84 x 0.282	1.1	1.8	18.4	636.0

## SIHCSI Multicore Silicone Rubber Insulated and Jacketed Cable with Copper Wire Screened



### Shielded silicone cable

Shielded Silicone Cable is a heavy duty, multiple-conductor, shielded, continuous flex cable with tear resistance silicone jacket. This cable is recommended to be used in continuous flex applications where high temperatures, UV light and mechanical abuse rapidly cause other cables to deteriorate. The shielded silicone cable is a continuous flex, cost effective, high temperature cable. Recommended applications include foundries, steel mills, glass factories, baking equipment, burners, heating and lighting and injection molding machinery systems. This cable can also be used anywhere salt water is present, and high temperature processes are utilized. An overall tinned copper shield is recommended whenever electrical interference distorts signal transmission, or where EMI (Electromagnetic Interference) emissions are suppressed.

Temperature range



Color of cores & jacket



Applications



### Technical Data

Temperature range  
-60°C +200°C  
(Short-time use: 250°C)

Burning characteristics  
Flame retardant and self-extinguishing acc.to IEC 603332-1-2

Acid gas emission  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

Smoke density  
In acc.to IEC 61034-2

Nominal voltage  
300V / 500V

Testing voltage  
2000V

### Construction

1. Conductor  
Flexible stranded tinned copper, acc.to IEC 60228, EN 60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type IE2 to IEC 60245-1

3. Screen  
Aluminium tape and tinned copper braid

4. Jacket  
Silicone rubber type IE2 to IEC 60245-1

5. Color  
In accordance with the VDE 0293-308

### Standards

IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2



## YAGHOUT CABLE



Number of Cond. x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter (mm)	Approx Weight kg/km
6 x 0.5	16 x 0.186	0.6	1.0	8.2	124.0
6 x 0.75	24 x 0.186	0.6	1.0	9.1	153.0
6 x 1.0	32 x 0.186	0.6	1.0	10.1	173.0
6 x 1.5	32 x 0.227	0.8	1.0	11.2	228.0
6 x 2.5	52 x 0.227	0.9	1.2	13.0	293.0
6 x 4.0	56 x 0.282	1.0	1.5	16.0	506.0
6 x 6.0	84 x 0.282	1.1	1.8	20.0	745.0
7 x 0.5	16 x 0.186	0.6	1.0	8.9	134.0
7 x 0.75	24 x 0.186	0.6	1.0	9.8	166.0
7 x 1.0	32 x 0.186	0.6	1.0	10.1	189.0
7 x 1.5	32 x 0.227	0.8	1.0	11.2	250.0
7 x 2.5	52 x 0.227	0.9	1.2	13.4	372.0
7 x 4.0	56 x 0.282	1.0	1.5	16.4	561.0
7 x 6.0	84 x 0.282	1.1	1.8	20.0	249.0
10 x 1.5	32 x 0.227	0.8	1.7	15.0	379.0
10 x 2.5	52 x 0.227	0.9	1.8	17.4	538.0
12 x 1.5	32 x 0.227	0.8	1.7	15.4	433.0
12 x 2.5	52 x 0.227	0.9	1.8	17.9	614.0
14 x 1.5	32 x 0.227	0.8	1.8	16.2	485.0
16 x 1.5	32 x 0.227	0.8	1.8	17.0	538.0
18 x 1.5	32 x 0.227	0.8	1.8	17.8	591.0
19 x 1.5	32 x 0.227	0.8	1.8	17.8	613.0
20 x 1.5	32 x 0.227	0.8	1.8	19.4	679.0
24 x 1.5	32 x 0.227	0.8	1.8	21.2	801.0





## **YAGHOUT Cable**

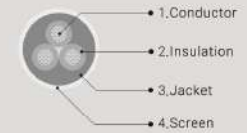
The Company's progress the field of silicone refractory wires with fiberglass coating:

1. Localization of two-layer woven resin wire for the first time in Iran.
2. Upgrade production capacity (81,216 meters per day)
3. Increasing the number of knitting machines (112 pieces)



Number of Cond.x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter(mm)	Approx Weight kg/km
2 x 0.75	24 x 0.186	0.6	0.8	6.6	72
2 x 1.0	32 x 0.186	0.6	0.9	7.0	80
2 x 1.5	32 x 0.227	0.8	1.0	7.7	107
2 x 2.5	52 x 0.227	0.9	1.1	9.0	158
2 x 4.0	56 x 0.282	1.0	1.2	11.2	225
3 x 0.75	24 x 0.186	0.6	0.9	7.6	86
3 x 1.0	32 x 0.186	0.6	0.9	7.8	103
3 x 1.5	32 x 0.227	0.8	1.0	8.5	127
3 x 2.5	52 x 0.227	0.9	1.1	10.3	192
3 x 4.0	56 x 0.282	1.0	1.2	12.3	276
4 x 1.5	32 x 0.227	0.8	1.1	9.4	157
5 x 1.5	32 x 0.227	0.8	1.1	11.0	188
7 x 1.5	32 x 0.227	0.8	1.1	12.4	233

## SIHSI-GL Multicore Silicone Rubber Insulated and Jacketed Cable with Fiberglass Braided



### Silicone cable with fiber glass braid

Silicone Cable is a heavy duty , multi conductor , silicone insulated control cable with high temperature resistant silicone jacket and also fiber glass braids. This cable is recommended to be used in applications where high temperatures , UV light and mechanical abuse rapidly cause other cables to deteriorate. The silicone cable is a flexible , cost effective , high temperature cable. Recommended applications include foundries , steel mills , glass factories,baking equipment , burners , heating and lighting systems. This cable can also be used anywhere salt water is present , and high temperature processes are utilized .

### Temperature range



### Color of cores & jacket



### Applications



### Technical Data

Temperature range  
-60°C +300°C  
(Short-time use:400°C)

Burning characteristics  
Flame retardant and self-extinguishing acc.to IEC 603332-1-2

Acid gas emission  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

Smoke density  
In acc.to IEC 61034-2

Nominal voltage  
300v / 500v

Testing voltage  
2000v

### Construction

1. Conductor  
Flexible stranded tinned copper, acc.to IEC 60228, EN 60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type IE2 to IEC 60245-1

3. Jacket  
Silicone rubber type IE2 to IEC 60245-1

4. Screen  
Fiberglass braid

5. Color  
In accordance with the VDE 0293-308

### Standards

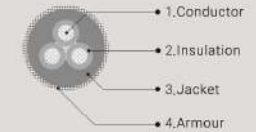
IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2





Number of Cond.x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter(mm)	Approx Weight kg/km
2 x 0.25	13 x 0.15	0.6	0.8	6.2	40.0
2 x 0.5	16 x 0.186	0.6	0.8	6.4	48.0
2 x 0.75	24 x 0.186	0.6	0.8	6.6	53.0
2 x 1.0	32 x 0.186	0.6	0.9	7.0	60.0
2 x 1.5	32 x 0.227	0.8	1.0	7.7	82.0
2 x 2.5	52 x 0.227	0.9	1.1	9.0	135.0
2 x 4.0	56 x 0.282	1.0	1.2	11.2	191.0
2 x 6.0	84 x 0.282	0.8	1.5	12.6	274.0
3 x 0.75	24 x 0.186	0.6	0.9	7.6	64.0
3 x 1.0	32 x 0.186	0.6	0.9	7.8	78.0
3 x 1.5	32 x 0.227	0.8	1.0	8.5	98.0
3 x 2.5	52 x 0.227	0.9	1.1	10.3	152.0
3 x 4.0	56 x 0.282	1.0	1.2	9.4	224.0
3 x 6.0	84 x 0.282	0.8	1.5	13.8	338.0
4 x 0.75	24 x 0.186	0.6	0.9	8.0	84.0
4 x 1.0	32 x 0.186	0.6	0.9	8.7	95.0
4 x 1.5	32 x 0.227	0.8	1.1	9.4	122.0
4 x 2.5	52 x 0.227	0.9	1.2	11.6	189.0
4 x 4.0	56 x 0.282	1.0	1.3	14.4	295.0
4 x 6.0	84 x 0.282	1.1	1.8	16.8	442.0
4 x 10	96 x 0.352	1.3	1.8	21.0	707.0
4 x 16	125 x 0.386	1.3	2.0	24.0	987.0
5 x 0.75	24 x 0.186	0.6	1.0	9.7	101.0
5 x 1.0	32 x 0.186	0.6	1.0	9.9	116.0
5 x 1.5	32 x 0.227	0.8	1.1	11.1	148.0
5 x 2.5	52 x 0.227	0.9	1.3	12.3	229.0
5 x 4.0	56 x 0.282	1.0	1.4	15.4	359.0
5 x 6.0	84 x 0.282	1.1	1.8	18.6	535.0
6 x 0.75	24 x 0.186	0.6	1.0	9.5	117.0
6 x 1.0	32 x 0.186	0.6	1.0	10.3	135.0
6 x 1.5	32 x 0.227	0.8	1.0	11.3	173.0
6 x 2.5	52 x 0.227	0.9	1.2	12.3	268.0
6 x 4.0	56 x 0.282	1.0	1.8	15.7	441.0
6 x 6.0	84 x 0.282	1.1	1.8	19.5	630.0

## SIHSISWB Multicore Silicone Rubber Insulated and Jacketed Cable With Galvanized Steel Wire Armour



### Armored silicone cable

Silicone insulated conductors with silicone outer jackets and protection steel braid. Recommended for use where high temperatures, mechanical abuse and abrasion rapidly cause other cables to deteriorate. It is a flexible, high temperature cable where additional mechanical protection is required. Recommended applications include

foundries, steel mills and glass factories and other high temperature processes.

### Temperature range



### Color of cores & jacket



### Applications



### Technical Data

Temperature range  
-60°C +200°C  
(Short-time use: 250°C)

Burning characteristics  
Flame retardant and self-extinguishing acc.to IEC 603332-1-2

Acid gas emission  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

Smoke density  
In acc.to IEC 61034-2

Nominal voltage  
300v / 500v

Testing voltage  
2000v

### Construction

1. Conductor  
Flexible stranded tinned copper, acc.to IEC 60228, EN 60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type IE2 to IEC 60245-1

3. Jacket  
Silicone rubber type IE2 to IEC 60245-1

4. Armour  
Galvanized Steel wire braided

5. Color  
In accordance with the VDE 0293-308

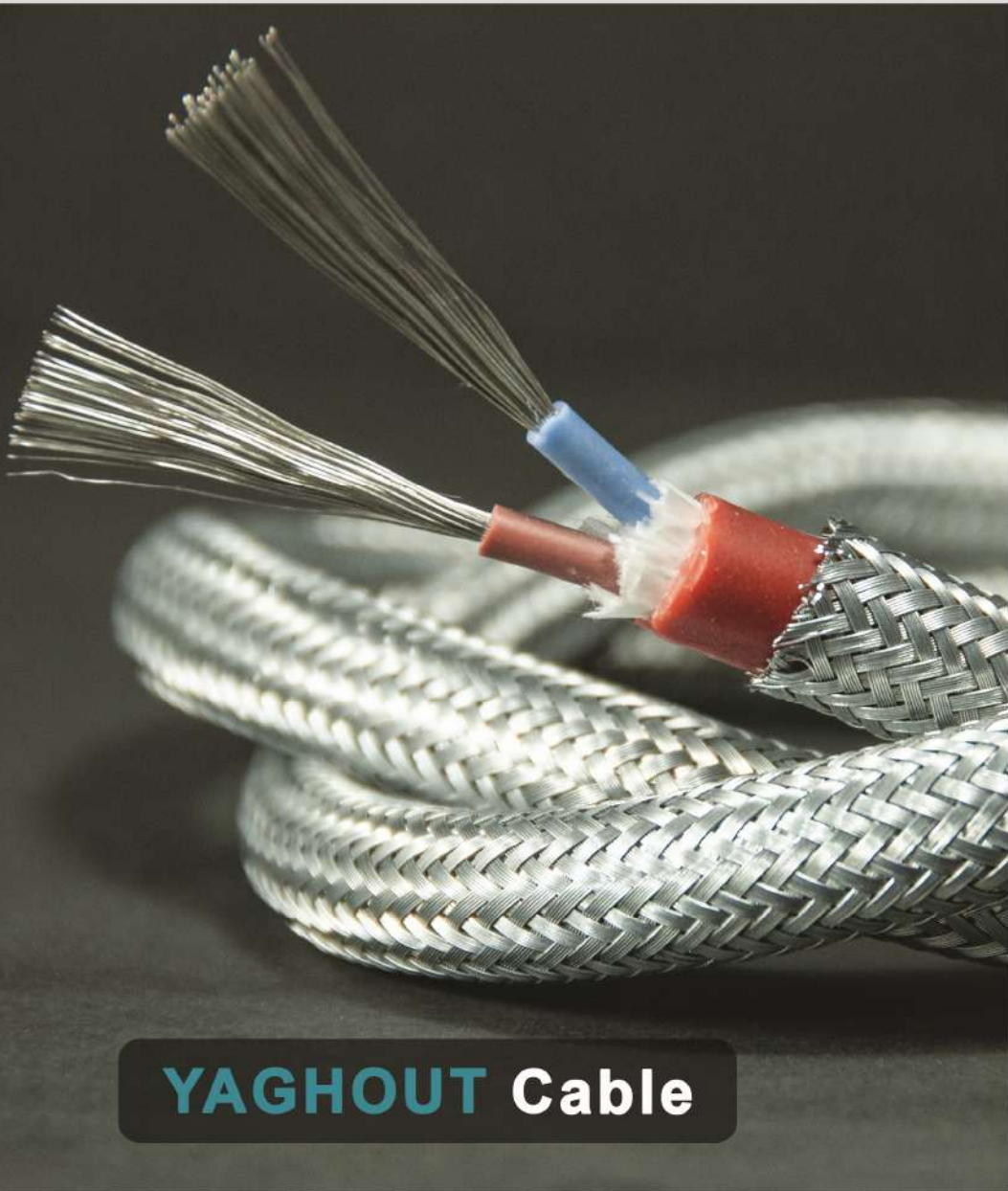
### Standards

IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2





## YAGHOUT CABLE



## YAGHOUT Cable



Number of Cond. x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter (mm)	Approx Weight kg/km
7 X 0.75	24 x 0.186	0.6	1.0	10.6	208
7 X 1.0	32 x 0.186	0.6	1.0	11.3	230
7 X 1.5	32 x 0.227	0.8	1.0	12.5	292
7 X 2.5	52 x 0.227	0.9	1.2	14.5	415
7 X 4.0	56 x 0.282	1.0	1.5	17.1	619
7 X 6.0	84 x 0.282	1.1	1.8	20.5	935
10 X 1.5	32 x 0.227	0.8	1.7	15.3	454
12 X 1.5	32 x 0.227	0.8	1.7	15.8	496
14 X 1.5	32 x 0.227	0.8	1.8	17.5	553
16 X 1.5	32 x 0.227	0.8	1.8	18.4	632
18 X 1.5	32 x 0.227	0.8	1.8	19.2	694
19 X 1.5	32 x 0.227	0.8	1.8	19.2	706
20 X 1.5	32 x 0.227	0.8	1.8	20.5	810
24 X 1.5	32 x 0.227	0.8	1.8	21.5	952
10 X 2.5	52 x 0.227	0.9	1.8	18.8	659
12 X 2.5	52 x 0.227	0.9	1.8	19.3	737

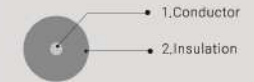




Core and Size mm sq	Stranding Number of Strand/Strand Diameter	Outer Diameter approx.mm	Ignition Voltage. Kv	Weight kg/km approx
1 x 0.15	7 x 0.15	2.2	8	5.8
1 x 0.50	16 x 0.186	5	10	40
1 x 0.75	24 x 0.186	7	20	55
1 x 1.0	32 x 0.186	7	20	58
1 x 1.5	32 x 0.227	8	18	61
1 x 2.5	52 x 0.227	8	16	68

## Silicone Rubber Ignition Cable

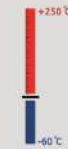
### Yaghout Cable



#### Ignition Wire

The ignition wires are used to make a spark with trans the surge current in ignition chamber. The silicone rubber insulation is useful for this situation, case of its properties, like high temperature resistant and resistant against oil, acid and things of that nature.

#### Temperature range



#### Insulation color



#### Applications



#### Technical Data

**Temperature range**  
-60°C +200°C  
(Short-time use:250°C)

**Burning characteristics**  
Flame retardant and  
self-extinguishing acc.to  
IEC 603332-1-2

**Acid gas emission**  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

**Smoke density**  
In acc.to IEC 61034-2

#### Construction

**1. Conductor**  
Flexible stranded  
tinned copper, acc.to  
IEC 60228, EN 60228,  
VDE 0295, class 5

**2. Insulation**  
Silicone rubber type  
IE2 to IEC 60245-1

**3. Color**  
On request

#### Standards

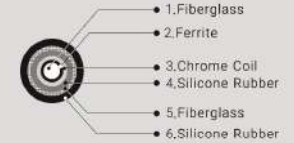
IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2





Outer Diameter mm	Spark Voltage kv	Weight kg /km
7 ± 0.10	35	60
8 ± 0.10	35	70

## Silicone Rubber Spark Plug Wire



### Spark Plug Wire

The conductor of ignition cable has been screwed around a semiconductor. By sending a pulse to this coil, spark will appear. Actually this spark affects the magnetic field that is created in coil of cable. This spark causes the energy of the coil to discharge and the explosion will happen in combustion chamber. Spark plug wire is created by three protective layers:

- The first layer is silicone rubber that helps to raise insulation resistance.
- The second layer is made of fiberglass to raise the temperature endurance and strength.
- The third layer is silicone rubber too, to raise the insulation resistance and temperature resistance as well.

### Temperature range



### Jacket color



### Applications



### Technical Data

**Temperature range**  
-60°C +200°C  
(Short-time use: 250°C)

**Burning characteristics**  
Flame retardant and self-extinguishing acc. to BS ISO 3808

**Acid gas emission**  
In acc. to IEC 60754-1  
In acc. to IEC 60754-2

**Smoke density**  
In acc. to IEC 61034-2

### Construction

**1. Reactive Core**  
Chrome coil

**2. Insulation**  
Silicone rubber type  
IE2 to IEC 60245-1

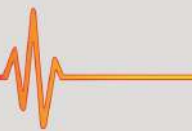
**3. Screen**  
Fiberglass braided

**4. Jacket**  
Silicone rubber type  
IE2 to IEC 60245-1

**5. Color**  
On request

### Standards

BS ISO 3808  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2

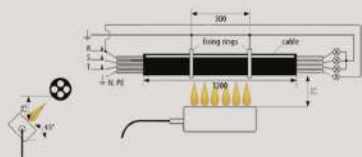




Number of Cond.x Cross Section (mm)	Number of Stranding x Single Core Diameter	Thickness of Insulation (mm)	Thickness of Jacket (mm)	Overall Diameter(mm)	Approx Weight kg/km
2 x 1.5	32 x 0.227	0.8	1.1	7.8	95.0
2 x 2.5	52 x 0.227	0.9	1.2	8.6	120.0
3 x 1.5	32 x 0.227	0.8	1.1	8.6	110.0
3 x 2.5	52 x 0.227	0.9	1.2	9.6	140.0

#### FIRE RESISTANCE CABLE acc.to BS 6387

##### BS 6387 cat C



##### Sample characteristics

- Minimum length : 1200 mm

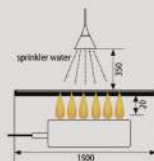
##### Test characteristics

- Flame temperature : 950°C
- Burner position : vertical
- Voltage : cable nominal voltage
- Duration : 180 min

##### Requirement :

- Function continuity  $\geq$  180 min

##### BS 6387 cat W



##### Sample characteristics

- Minimum length : 1500 mm

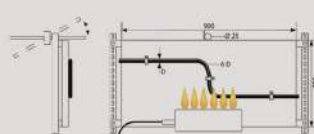
##### Test characteristics

- Flame temperature : 650°C
- Water spray with sprinkler
- Voltage : cable nominal voltage
- Test duration : 30 min (15 min fire + 15 min fire & water)

##### Requirement :

- Function continuity  $\geq$  30 min

##### BS 6387 cat Z



##### Sample characteristics

- Cable diameter : 0 - 20 mm
- Minimum length : 1200 mm

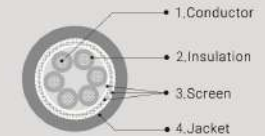
##### Test characteristics

- Flame temperature : 950°C
- mechanical shock : each 30s
- Bending radius : cable manufacturer
- Voltage : cable nominal voltage
- Test duration : 15 min

##### Requirement :

- Function continuity  $\geq$  15 min

## SIHGL-CSI Multicore Silicone Rubber Insulated and Jacketed Cable with Copper Wire Screened



#### Temperature range



#### Color of cores & jacket



#### Applications



#### Technical Data

Temperature range  
Work T : -60c +200c  
(Short-time use:250c)

**Burning characteristics**  
Flame retardant and self-extinguishing acc.to IEC 603332-1-2  
Fire resistance acc.to IEC 60331-21,BS 6387 BS EN 50200

**Acid gas emission**  
In acc.to IEC 60754-1  
In acc.to IEC 60754-2

**Smoke density**  
In acc.to IEC 61034-2

**Nominal voltage**  
300v / 500v

**Testing voltage**  
2000v

#### Construction

1. Conductor  
Flexible stranded tinned copper, acc.to IEC 60228, EN 60228, VDE 0295, class 5

2. Insulation  
Silicone rubber type to BS 7629-1

3. Screen  
Aluminium tape and tinned copper braid, Fiberglass braided

4. Jacket  
Silicone rubber

5. Color  
In accordance with the VDE 0293-308

#### Standards

IEC 60245-1  
IEC 60228  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2  
IEC 60332-1-2  
IEC 60331-21  
BS 7629-1  
BS 6387



Features of insulation and jacket materials

	characteristic			Environmental conditions		halogen free	mechanical				thermal												
	Materials	Abbreviations	Initial code in VDE	Resistant to cold	Resistant against environmental conditions		Abrasion resistant	corrosiveness	Hardship shore	Elongation%	Tensile strength (N/mm <sup>2</sup> )	Maximum radiation resistance Mrad	Hazardous gases during fire (litre/m <sup>3</sup> )	Thermal conductivity (W/m.K)	Amount of heat								
Thermoplastic	PVC	PVC	Y	medium - Good	For black color: medium	no	0/4	medium	70-90(9)	130-150	10-25	80	Hydrogen chloride	0/17	17-25								
	Heat resistant PVC 90°C	PVC	YW												16-22								
	Heat resistant PVC 150°C	PVC	YW												16-20								
	Cold resistant PVC	PVC	YK												17-24								
	Low density polyethylene	LDPE	ZY	good	-	yes	0/1	medium	45-50(0)	400-600	10-30	100	does not have	0/3	42-44								
	High density polyethylene	HDPE	JY					good	60-65(0)	500-1000	20-30					0/4							
	cross linked polyethylene	XLPE	ZK					-good	medium	80-85(0)	300-400					12.5-20	0/9						
	sponge Polyethylene (foam)	02Y	-					According to the Conditions	-	-	-					350-450	9-12	0/25					
	Polystyrene	PS	JY	medium - Good	fairly good	yes	0/4	good	25-30(0)	300-400	35-65	80	does not have	0/25	40-43								
	Polyamide	PA	4Y	good	1.0-1.5											very good	-	50-170	50-60	10	0/23	27-31	
Polypropylene	PP	9Y	medium	0/1	medium											35-60(0)	300	20-35	100(500)	0/19	42-44		
Polyurethane	PUR	11Y	yes	1/5	very good											70-100(4)	500-700	30-45	100(500)	0/25	20-26		
Elastomer Polyester	TPE-L (117)	very good	very good	yes	1/5	good	85(A) 70(0)	>300	30	10	0/5	20-25											
Polyolefin elastomer	TPE-O	yes	1/5	good	35(A) 70(0)	>300	30	10	1/5	23-28													
Elastomer	Natural rubber Styrene butadiene rubber	NR SBR	G	very good	medium	no	0/4	medium	80-70(0)	300-400	5-10	100	-	0/22	21-25								
	Silicone rubber	SR	2G	good	40-80(0)										50	17-19							
	Ethylene propylene rubber	EP	3G	very good	yes										1	medium	45-85(0)	300-400	100	does not have	21-25		
	Ethylene vinyl acetate copolymer	EVA	4G	good	70-85(0)										250-350	8-12	100	-	19-23				
	Polychloroprene	CR	5G	medium - Good	medium										35-70(0)	400-700	10-20	50	Hydrogen chloride	-	14-19		
	Polyethylene chlorosulfonate	CSM	6G	medium	1/5										medium	60-70(0)	350-600	19-23					
High temperature materials	Polyvinylidene fluoride	PVDF	10Y	very good	very good	no	0/01	very good	75-80(0)	150	50-80	10	hydrofluoric	0/17	15								
	Ethylene tetrafluoroethylene	ETFE	7Y	very good	very good										70-75(0)	150	40-50	10	have	0/24	14		
	Fluorinated ethylene propylene	FEP	8Y	very good	very good										10/1	very good	55-60(0)	250	15-25	1	have	0/26	5
	Alkoxypolymer profluor	PFA	00X	very good	very good										10/1	very good	55-60(0)	220	25-30	0/1	have	0/23	5
	Polytetrafluoroethylene	PTFE	5Y	very good	very good										0/01	very good	55-60(0)	50	80	0/1	have	0/26	5
	Halogen free polymer	Not networked (not cross-linked)	H	medium	Medium for black color: good										0.2-1.5	medium	150-250	8-13	100	does not have	0/17	17-22	
	Halogen free polymer	Networked (cross linked)	HX	medium	Medium for black color: good										0.2-1.5	medium	65-95(0)	150-250	8-11	200	does not have	0/2	16-25



Oxygen index LOI	Flame resistant	thermal			Electric					characteristic			
		melting point °C	short term °C	permanent °C	Dielectric loss coefficient	Dielectric constant (at 50% RH)	Volumetric resistance (at 50% RH)	Breakdown voltage (kV/cm)	Density (g/cm <sup>3</sup> )	Materials	Abbreviations	Initial code in VDE	
23-42	Self-extinguishing	>140	+100	-30	4x10 <sup>-2</sup> to 4x10 <sup>-4</sup>	3.6-6	10 <sup>11</sup> - 10 <sup>14</sup>	25	1.35-1.3	PVC	PVC	Y	
		>140	+120	-20		4-6.5	10 <sup>12</sup> - 10 <sup>15</sup>	25	1.3-1.5	Heat resistant PVC90°C	PVC	YW	
		>140	+120	-30		4.5-6.5	10 <sup>12</sup> - 10 <sup>15</sup>	25	1.3-1.5	Heat resistant PVC150°C	PVC	YW	
		>140	+100	-40		4.5-6.5	10 <sup>12</sup> - 10 <sup>15</sup>	25	1.2-1.4	Cold resistant PVC	PVC	YK	
24-42	Flammable	105-110	+100	-50	2x10 <sup>-4</sup> to 3x10 <sup>-4</sup>	2/1	10 <sup>17</sup>	70	0.92-0.94	Low density polyethylene	LDPE	ZY	
		130	+120	-50		2/1	10 <sup>17</sup>	85	0.94-0.98	High density polyethylene	HDPE	ZY	
		-	+100	-35		2x10 <sup>-7</sup>	4.6	10 <sup>12</sup> - 10 <sup>14</sup>	50	0/92	Networked polyethylene (cross linked)	XLPE	ZK
		105	+100	-40		5x10 <sup>-4</sup>	1/55	10 <sup>13</sup>	30	0/55	Polyethylene sponge (foam)		02Y
		>120	+100	-80		1x10 <sup>-4</sup>	2/5	10 <sup>16</sup>	30	1/05	Polystyrene	PS	3Y
		210	+125	-60		1x10 <sup>-2</sup>	4	10 <sup>13</sup>	30	1.02-1.1	Poly amide	PA	4Y
20-26	Flammable	160	+140	-10	4x10 <sup>-4</sup>	2.3-2.4	10 <sup>14</sup>	75	0/91	Polypropylene	PP	9Y	
		150	+100	-55	2.3x10 <sup>-2</sup>	4.7	10 <sup>10</sup> - 10 <sup>12</sup>	20	1.15-1.2	Polyurethane	PUR	11Y	
20-26	Flammable	190	+40	-80	1.0x10 <sup>-2</sup>	3.7-5.1	> 10 <sup>10</sup>	40	1.2-1.4	Elastomer Polyester		17E.4 (127)	
		150	+130	+100	2.7-3.6	> 10 <sup>14</sup>	30	0.89-1.0	Polyolefin elastomer		17E.O		
≤21	Flammable	250	+120	-65	1.9x10 <sup>-2</sup>	3.5	10 <sup>10</sup> - 10 <sup>11</sup>	20	1.5-1.7	Natural rubber Styrene butadiene rubber	NR SBR	G	
25-35	High flash point	-	+260	+60	6x10 <sup>-2</sup>	3.4	10 <sup>11</sup>	20	1.2-1.3	Silicone rubber	SR	2G	
		-	+160	-30	3.4x10 <sup>-2</sup>	3.3.8	10 <sup>14</sup>	20	1.3-1.55	Ethylene propylene rubber	EP	3G	
30-35	Self-extinguishing	-	+200	-30	2x10 <sup>-2</sup>	5-6.5	10 <sup>12</sup>	30	1.3-1.5	Ethylene vinyl acetate copolymer	EVA	4G	
		-	+140	-40	5x10 <sup>-2</sup>	6-8.5	10 <sup>13</sup>	30	1.4-1.65	Polychloroprene	CR	5G	
40-45	Self-extinguishing	>160	+140	-30	2.0x10 <sup>-2</sup>	6.9	10 <sup>11</sup>	25	1.3-1.6	Polyethylene chlorosulfonate	CSM	6G	
		>170	+160	-40	1.4x10 <sup>-2</sup>	7.9	10 <sup>14</sup>	25	1.7-1.9	Polyvinylidene fluoride	PVDF	10Y	
30-35	Self-extinguishing	>265	+180	-100	8x10 <sup>-4</sup>	2/6	10 <sup>14</sup>	36	1.6-1.8	Ethylene tetrafluoroethylene	ETFE	7Y	
95	Self-extinguishing	>225	+230	-100	3x10 <sup>-4</sup>	2/1	10 <sup>14</sup>	25	2.0-2.3	Fluorinated ethylene propylene	FEP	8Y	
95	Self-extinguishing	>290	+280	-190	3x10 <sup>-4</sup>	2/1	10 <sup>16</sup>	25	2.0-2.3	Alkoxypolymer profluor	PFA	00X	
95	Self-extinguishing	>325	+300	-190	3x10 <sup>-4</sup>	2/1	10 <sup>16</sup>	20	2.0-2.3	Polytetrafluoroethylene	PTFE	5Y	
≤ 40	Self-extinguishing	>130	+100	-30	3.4-5	10 <sup>12</sup> - 10 <sup>14</sup>	25	1.4-1.6	Halogen-free polymer	Not networked (not cross-linked)	H		
≤ 40	Self-extinguishing	-	+150	-30	3.4-5	10 <sup>12</sup> - 10 <sup>14</sup>	25	1.4-1.6	Halogen-free polymer	Networked (cross-linked)	HX		





**YAGHOUT CABLE**



بزرگترین سرمایه انسان با سرمایه به امدادش اراده است  
بیانگذار شرکت کابلی باقوت و مایا جوتور  
باقوت و مایا





[www.yaghoutcable.ir](http://www.yaghoutcable.ir)