







APIT Holding was established in 1984 to produce various industrial fasteners and wire drawings. The holding sought to meet a significant portion of the market demand for various steel wire products by expanding its production capacity.

Over time, by accurately identifying market needs and economic requirements, alongside enhancing capacity and improving product quality and quantity, APIT Holding successfully manufactures and supplies:

- All kinds of galvanized wires
- Mesh metals wires
- Bead wires
- Spring wires
- Annealed wires
- Pre-stressed wires
- Pre-stressed cables
- Fishing wires
- Fiber concrete
- Various welding electrodes in different classifications

As part of its social responsibility, APIT Holding has invested in state-of-the-art pickling and wastewater treatment systems to control pollutants and optimize resource utilization.



مع التحية

تأسست شركة آبيت القابضة عام ١٩٨٤ بهدف إنتاج مسامير صناعية متنوعة وسحب الأسلاك. وسعت الشركة لتلبية جزء كبير من الطلب في السوق على منتجات الأسلاك الفولاذية المتنوعة من خلال توسيع طاقتها الإنتاجية.

ومع مرور الوقت، نجحت شركة آبيت القابضة، من خلال تحديد الاحتياجات السوقية والمتطلبات الاقتصادية بدقة، جنبًا إلى جنب مع تعزيز الطاقة الإنتاجية وتحسين نوعية وكمية المنتجات، في تصنيع وتوريد:

- جميع أنواع الأسلاك المجلفنة
 - أسلاك الشبك المعدنية
 - الأسلاك المضفرة
 - الأسلاك الزنبركية
 - الأسلاك المطرودة
 - الأسلاك المشدودة مسبقًا
 - الكابلات المشدودة مسبقًا
 - أسلاك الصيد
 - الألياف الخرسانية
- مجموعة متنوعة من أقطاب اللحام الكهربائي ضمن تصنيفات مختلفة

وكجزء من مسؤوليتها الاجتماعية، استثمرت شركة آبيت القابضة في أحدث أنظمة غسل الحوامض ومعالجة مياه الصرف للسيطرة على الملوثات وتحسين استخدام الموارد.



wire

Commercial Hot Deep Galvanized Wire ARMOR Wire High Tensile Galvanized Wire ACSR Wire





فلسأ

السلك المجلفن الغمس الساخن التجاري سلك أرمو سلك مجلفن عالي المقاومة سلك ACSR



Commercial Hot Deep Galvanized Wire

The carbon steel wires with galvanized coating are highly versatile and suitable for various applications due to their good flexibility and formability.

The use of zinc coating in these wires provides proper corrosion resistance, making them suitable for applications requiring corrosion resistance.

Use Cases

- building panels
- Woven wire
- Barbed wire
- Chain

- Agricultural industries
- Fancing
- Stakes
- Paper clips

Production Standard

ASTM	A641.	ASTM	A817
7.01141	<i>i</i> ,	/ 00/11/1	/.01/

BS EN 10244-1,2

Wire Diameter (mm)	Soft (Mpa)	Medium (Mpa)	Hard (Mpa)
d < 2.00	Max. 515	485-690	620-825
2.0-2.5	Max. 515	485-655	585-795
2.5-4.7	Max. 485	450-620	550-760
and above - 4.7	Max. 485	415-585	515-750

- Packaging

Wire Diameter (mm) Inner Diameter (mm)		Outer Diameter (mm)	Coil Weight (Kg)	
1.85-6.0	500	700	80-400	



Copper Winding Wire

Atlas Pega, as a prominent supplier and seller of copper winding wires, has achieved a superior market position by providing high quality products and professional services. With its corrosion resistant and antibacterial copper wires, it has been able to gain customer satisfaction.

Also, adherence to international industrial standards and flexibility in supplying raw materials are salient features of this company. With excellent technical knowledge and experience in this industry, Atlas Pega is recognized as one of the pioneers in the copper winding wire industry.

Applications of Copper Winding Wire

Due to its outstanding characteristics, this product is used in various industries. The most important applications are:

- Manufacturing communication and power cables
- Electrical and electronic industries
- Automotive and aviation industries
- Construction industries for various electrical and heating systems
- Military and defense industries for various applications in electronic and electrical equipment
- Medical industries for medical devices and precision medical instruments

Due to suitable thermal and electrical conductivity, copper winding wire is extensively used in these industries and plays a vital role in their optimal performance.

Characteristics of Copper Winding Wire

This product is renowned for its excellent characteristics:

- High corrosion and oxidation resistance
- High thermal conductivity and ability to transfer heat efficiently
- Excellent electrical conductivity making it suitable for use in electrical and electronic products
- Antibacterial properties used for sanitary and medical applications
- Suitable flexibility allowing it to be used in different industries with various technologies
- Good formability enabling complex and precise productions
- Good weldability and ability to connect well with other materials used for manufacturing various products

These features make this product one of the most important and widely used materials in various industries.



Prestressed Steel Strand

Prestressed steel strand is a type of steel reinforcing bar used in prestressed concrete. These strands are tensioned using special equipment and then placed in concrete.

This allows the concrete to have greater resistance against tensile forces caused by loading.

Our manufactured strands have high tension capacity, low relaxation, and conform to international standards ASTM A421 & EN 10138, BS 5896.

This product is produced in various sizes and mechanical properties, with diameters ranging from 4 to 10 mm, smooth or ribbed, according to customer requirements.

Prestressed steel strands are used in concrete structures of buildings as well as prestressed concrete pipes for high pressure water, railway sleepers, concrete poles for power transmission, etc.

Details; Prestressed Steel Strand

Visually, prestressed strands look similar to steel wires but have much higher tensile strength due to their special production process.

In this process, the strands are tensioned using special equipment and then cooled. This alters the crystalline structure of the strands and increases their strength.

Prestressed strands are produced in two types: **plain** and **indented**.

- Plain strands have a smooth surface while indented strands have a surface with fine ribs.
- Indented strands have better concrete bond and are used in structures that require high tensile strength and good bond between concrete and steel.

This product is used to construct various prestressed concrete structures like bridges, tunnels, buildings and industrial structures.

These strands allow concrete structures to have greater resistance against tensile forces caused by loading, thus increasing the service life of the structure.

Characteristics of Prestressed Steel Strand

- Very high tensile strength
- Good concrete bond
- Corrosion resistance

Applications of Prestressed Steel Strand

- Bridge construction
- Tunnel construction
- Building construction
- Industrial structure construction

Nominal Diameter	Nominal Tensile Strength	Nominal Steel Area	Nominal Mass	Breaking Load	0.1% Proof Load	Min N Elongation % Rre At Max After ' Load F		ax axation 000hrs om
mm	N/mm²	mm²	g/m	KN	KN	%	80% Initial Load	70% Initial Load
,	1.670	12.6	98.4	21.0	18.5	3.5	4.5	2.5
4	1.770	12.6	98.4	22.3	19.6	3.5	4.5	2.5
4.5	1.620	15.9	124.2	25.8	22.7	3.5	4.5	2.5
	1.670	19.6	153.1	32.7	28.8	3.5	4.5	2.5
5	1.770	19.6	153.1	34.7	30.5	3.5	4.5	2.5
	1.860	19.6	153.1	36.5	32.5	3.5	4.5	2.5
6	1.670	28.3	222	41.6	39.3	3.5	4.5	2.5
0	1.770	28.3	222	44.1	41.6	3.5	4.5	2.5
7	1.570 1.670	38.5 38.5	300.7 300.7	53.2 56.6	50.1 53.4	3.5 3.5	4.5 4.5	2.5 2.5

Types of Prestressed Steel Strand

- Plain prestressed strand
- Indented prestressed strand

Production Process of Prestressed Steel Strand

The prestressed strands are tensioned using special equipment and then cooled. This alters the crystalline structure of the strands and increases their strength.

Advantages and Disadvantages of Prestressed Steel Strand

Advantages

- Very high tensile strength
- Good concrete bond
- Corrosion resistance

Disadvantages

- Higher cost compared to ordinary rebar
- due to the need for specialized equipment and machinery for production.





Spring Wire

Spring wire is a steel wire used for manufacturing coil springs, torsion springs, and other spring components. These wires are made of high carbon steel which have high strength and flexibility.

Product Introduction

Our manufactured spring wires are drawn and produced as bright, black or uncoated and coated springs based on order. Examples of mechanical springs include loop springs, torsion springs, belt springs, etc.

Details; Spring Wire

This product is produced in two main types

- Hot Rolled Spring Wire: This type of wire is produced using the hot rolling process. In this process, the raw steel is rolled at high temperature into the desired shape.
- Cold Drawn Spring Wire: This type of wire is produced using the cold drawing process. In this process, the raw steel is drawn at low temperature to achieve higher strength and flexibility.

Types of Spring Wire

This product is used in various spring components including

- **Coil Springs**: These springs consist of a coiled spring wire. They are used in suspension systems of automobiles, motorcycles and other vehicles.
- **Torsion Springs**: These springs consist of a twisted spring wire. They are used in suspension systems of automobiles and motorcycles.
- **Torsion Bar**: This bar consists of a twisted spring wire. They are used in suspension systems of automobiles and motorcycles.
- Leaf Springs: These springs consist of a flat steel sheet formed into a spiral or waved shape. They are used in suspension systems of automobiles and motorcycles,

This is an important component in many vehicles and equipment. It should be high quality to provide the expected performance.

Characteristics of Spring Wire

Here are some key characteristics of this product:

- Strength: The spring wire should be able to withstand heavy loads.
- **Flexibility**: The spring wire should be able to flex without breaking or deforming under load.
- **Durability**: The spring wire should be able to resist wear and corrosion. Spring wire is usually tested using the following methods:
- **Tensile Test**: In this test, the product is placed under tensile load to determine its breaking strength.
- **Bend Test:** In this test, the product is placed under bending load to determine its flexibility.
- **Corrosion Test**: In this test, the product is exposed to corrosive agents to determine its corrosion resistance.

Applications of Spring Wire

The applications of this product are:

- Automotive Industry: Used to manufacture various automotive springs including suspension springs, brake springs, clutch springs, and gas springs.
- Railway Transportation: Used to manufacture various railway components including train springs, brake springs, and axle springs.
- **Military Industry**: Used to manufacture various military equipment including artillery springs, tank springs, and missile springs.
- Household Appliances: Used to manufacture various household appliances including furniture springs, mattress springs and vacuum cleaner springs.
- **Agricultural Machinery**: Used to manufacture various agricultural machinery including tractor springs, combine harvester springs, and fertilizer spreader springs.

In addition to the mentioned applications, spring wires are also used in other applications including:

- Industrial machinery
- Tools
- Medical devices
- Sports equipment

Production Standard

ASTM A227

BS EN 10270 - 1, 2, 3

Technical Specifications

		ASTM A227				
Wire Diameter (mm)		Tensile Strength (Mpa)				
5.00 - 0.50	Class I Class II					
		ASTM A227				
Wire Diameter (mm)			Tens	ile Strength	(Mpa)	
5.00 - 0.50		SL	SM	SH	DM	DH
	SL= low tensile strength SM= medium tensile strength DM= high tensile strength					







Galvanized Steel Wire ACSR

High carbon galvanized steel wire (single strand and braided)

Galvanized steel wire ACSR is a type of steel wire that is coated with a zinc (Zn) galvanized layer. Due to its high corrosion resistance, this type of wire is used in various applications such as manufacturing power cables, guy wires, telecommunications, as well as in construction and civil industries.

High carbon steel wires with high galvanized coating are used as the steel core in ACSR cables acting as load bearing conductors, and can also be used as single strand and stranded wires. Therefore, the specifications of this product can vary depending on the application. The main applications of this wire are in high voltage transmission lines, telecommunication cables as well as agricultural industries.

Details; Galvanized Steel Wire ACSR

In the manufacturing process of ACSR galvanized steel wire, first a high tensile strength steel wire is produced. Then, this wire is immersed in a molten zinc bath to form a 40 to 90 micron thick zinc coating layer around it. This zinc layer acts as a protective layer and shields the steel wire from corrosion and rusting.

ACSR galvanized steel wire is produced in various types each having specific technical properties. These technical properties include wire diameter, tensile strength, and zinc coating thickness.

Applications of ACSR galvanized steel wire

- Manufacturing power cables: ACSR steel wire is used as the core of power cables. Due to its high tensile strength, it can withstand the heavy weight and current load of the cable.
- **Guy wires and telecommunications**: ACSR steel wire is used as guy wire and telecommunication wire. Its high corrosion resistance allows it to be used in different environments.
- **Construction and civil industries**: ACSR steel wire is used to construct metal structures like I-beams, columns, and scaffolding. Its high tensile strength enables it to withstand heavy structural loads

Characteristics of ACSR Galvanized Steel Wire

- High corrosion and rust resistance: The zinc coating protects the steel from corrosion and rusting. Coating thickness affects corrosion resistance.
- High strength: ACSR wire has high tensile strength and can withstand heavy weight and pressure.

- Flexibility: ACSR wire is flexible and can easily bend and shape.
- Durability and longevity: ACSR wire is highly durable and can last many years in different conditions.

In the following, we explain each of these characteristics in more detail.

• High Corrosion and Rust Resistance

ACSR galvanized steel wire is corrosion and rust resistant due to its zinc coating. Zinc is an intermediary metal and protects the steel from reacting with oxygen and water. The zinc coating thickness affects the corrosion resistance level of the wire.

High Strength

ACSR galvanized steel wire has high tensile strength and can withstand heavy weights and pressures. This makes the product suitable for applications requiring high strength such as manufacturing power cables and guy wires.

Flexibility

ACSR galvanized steel wire is flexible and can easily bend and shape. This makes the product suitable for applications requiring high shapeability such as manufacturing fence meshes and hanging wires.

Durability and Longevity

ACSR galvanized steel wire is highly durable and can last many years in different conditions. This makes the product suitable for applications requiring high durability such as constructing metal structures.

Advantages of ACSR Galvanized Steel Wire

- High corrosion and rust resistance
- High strength
- Flexibility
- Durability and longevity

Disadvantages of ACSR Galvanized Steel Wire

- Relatively high cost
- Relatively heavy weight

In summary, ACSR galvanized steel wire is a high quality and durable product used in various applications. Due to its high corrosion and rust resistance, it can be used in different environments.

Production Standard

Single wire ASTM B498 BS 4565, BS EN 50189 DIN EN 48200-3 IEC 60888 ISIRI 10428

Technical specifications (single-strand wire):

DIN 48200-3 (single wire)						
Wire Diameter (mm)	Tensile strength (MPa)	Coating Weight (g/m²)				
1.35 – 1.75	1310 - 1520	200				
1.76 – 2.74	1310 - 1520	210				
2.75 - 3.49	1310 - 1520	250				
3.50 - 4.95	1310 - 1520	275				

BS EN 50189 (single wire)								
Diameter	Tensile strength		Coating Weight (g/m²)					
(mm)	(MPa)	Class A	Class B	Class C	Class D	Class E		
1.24 <d 1.50<="" td="" ≤=""><td>1400</td><td>185</td><td>370</td><td>150</td><td>365</td><td>185</td></d>	1400	185	370	150	365	185		
1.50 <d 1.75<="" td="" ≤=""><td>1400</td><td>200</td><td>400</td><td>160</td><td>460</td><td>200</td></d>	1400	200	400	160	460	200		
1.75 <d 2.00<="" td="" ≤=""><td>1400</td><td>215</td><td>430</td><td>175</td><td>550</td><td>215</td></d>	1400	215	430	175	550	215		
2.00 <d 2.25<="" td="" ≤=""><td>1400</td><td>215</td><td>430</td><td>175</td><td>550</td><td>250</td></d>	1400	215	430	175	550	250		
2.25 <d 2.75<="" td="" ≤=""><td>1350</td><td>230</td><td>460</td><td>190</td><td>640</td><td>250</td></d>	1350	230	460	190	640	250		
2.75 <d 3.00<="" td="" ≤=""><td>1350</td><td>230</td><td>460</td><td>190</td><td>640</td><td>250</td></d>	1350	230	460	190	640	250		
3.00 <d 3.50<="" td="" ≤=""><td>1300</td><td>245</td><td>490</td><td>205</td><td>730</td><td>250</td></d>	1300	245	490	205	730	250		
3.50 <d 4.25<="" td="" ≤=""><td>1300</td><td>260</td><td>520</td><td>260</td><td>730</td><td>260</td></d>	1300	260	520	260	730	260		
4.25 <d 4.75<="" td="" ≤=""><td>1300</td><td>275</td><td>550</td><td>275</td><td>775</td><td>275</td></d>	1300	275	550	275	775	275		
4.75 <d 5.00<="" td="" ≤=""><td>1300</td><td>290</td><td>580</td><td>290</td><td>825</td><td>290</td></d>	1300	290	580	290	825	290		
5.00 <d 5.25<="" td="" ≤=""><td>1300</td><td>290</td><td>580</td><td>290</td><td>825</td><td>290</td></d>	1300	290	580	290	825	290		
5.25 <d 5.50<="" td="" ≤=""><td>1300</td><td>290</td><td>580</td><td>290</td><td>825</td><td>290</td></d>	1300	290	580	290	825	290		

ASTM B498 (single wire)					
Wire Diameter (mm)	Coating Weight (g/m ²)	Tensile strength (MPa)			
1.27 - 1.52	183	1450			
1.53 - 1.90	198	1450			
1.90 - 2.28	241	1450			
2.29 - 2.64	229	1410			
2.65 - 3.04	244	1410			
3.05 - 3.55	259	1410			
3.56 - 4.57	274	1380			
4.58 - 4.82	305	1380			

Production Standard

ASTM A475

BS 183

- Technical standard for woven wires

BS EN 50189 (single wire)								
			Min breaking load of strand (KN)					
Nominal diameter of	Number of	Nominal diameter of		Gr	ade			
(stand mm) Wire strar	Wire strand	Wire in strand (mm)	М	in	М	ax		
			BS	ASTM	BS	ASTM		
4.71	7	1.57	4.9	5.11	16.2	17.77		
5.79	7	1.93	6	6.85	20	24		
8.04	7	2.68	13.5	14	44.4	49		
9.03	7	3.01	17.3	19	57	68		
9.84	7	3.28	20.8	-	66.8	-		
1.56-1.98	7	3.52-3.66	25.6	25	84.2	92		

High Carbon Galvanized Steel Wire-ACSR (single wire)					
Wire Diameter (mm)	Inner Diameter (mm)	Outer Diameter (mm)	Length (m)		
1.44 - 4.80	500	850	4100-8200*		

High Carbon Galvanized Steel Wire–ACSR (single wire)						
Nominal diameter of stand (mm)	Number of Wire strand	Spool Diameter (mm)	Spool Height (mm)	Length (m)		
1.44 - 4.80	7	900 - 1100	800	4040 - 8200		

Drawn Wire

Drawn wire is a type of wire that is produced using a drawing process. In this process, the wire is pulled through a die with a smaller diameter using a drawing machine. This reduces the diameter of the wire and increases its strength and resistance.

Details; Drawn Wire (LC)

Drawn wire is used in various industries. Some applications of this type of wire include:

- Manufacturing mechanical parts
- Manufacturing bolts and nuts
- Manufacturing various springs
- Manufacturing barbed wire
- Manufacturing various building products

Drawn wire is produced in two types: plain and oiled. Plain drawn wire has no coating while oiled drawn wire is coated using hot oil. This coating increases the corrosion resistance of the wire.

The properties of this product depend on factors like metal type, wire diameter, and amount of drawing. In general, this product has the following properties:

- High strength and resistance
- Smooth and polished surface
- Good flexibility

Drawn wire is produced in various sizes. The diameter of drawn wire is typically between 1 to 50 mm.

Production Process of Drawn Wire

To produce this product, first a wire with a larger diameter is manufactured. Then using a drawing machine, this wire is pulled through a die with a smaller diameter. This reduces the diameter of the wire and increases its strength and resistance.

In the drawing process, the wire goes under an extremely high tensile force. This force causes deformation in the metal's structure which increases the strength and resistance of the wire.

After drawing, the wire is cut to the desired length. Then, if required, the wire is coated using hot oil.

Advantages and Disadvantages of Drawn Wire

This product has the following advantages:

- High strength and resistance
- Smooth and polished surface
- Good flexibility

This product has the following disadvantages:

- Higher price compared to simple wire
- Requires specialized machinery and equipment for production







carbon wire – ARMOR Galvanized Low Carbon Wire – ARMOR

Galvanized low carbon wire – ARMOR is a steel product made of low carbon steel wires (typically with less than 0.25% carbon content). These wires are coated with a galvanized layer after production to make them corrosion resistant.

Technical Specifications

Galvanized low carbon wire – ARMOR is produced in various diameters ranging from 0.9 mm to 6 mm. The specific gravity of these wires is typically between 7.85 to 8.05 g/cm3. The tensile strength of these wires usually ranges from 500 to 1000 N/mm2. The yield strength of these wires commonly ranges from 200 to 400 N/mm2.

Applications

Galvanized low carbon wire – ARMOR has applications in various industries. One of its most important applications is in the cable manufacturing industries. This product is used as the metal cladding of cables to protect them from mechanical damages. Galvanized low carbon wire – ARMOR is also used in agricultural, construction, road-making and other industries.

In the following, we explain the applications of galvanized low carbon wire – ARMOR.

Application in Cable Manufacturing Industries

In cable manufacturing, galvanized low carbon wire – ARMOR is used as the metal cladding of cables. This metal cladding protects cables from mechanical damages like bending, tearing and abrasion.

Application in Agricultural Industries

In agriculture, galvanized low carbon wire – ARMOR is used to construct greenhouses, fences and other metal structures. These wires are a good choice for agricultural applications due to corrosion resistance and good flexibility.

Application in Construction Industries

In construction, galvanized low carbon wire – ARMOR is used to manufacture metal structures like I-beams, columns and rebars. These wires are suitable options for construction applications owing to their high strength and corrosion resistance.

Application in Road–Making Industries

In road-making, galvanized low carbon wire – ARMOR is used to construct metal structures like bridges, tunnels and underpasses. These wires are good choices for road-making applications due to high strength and corrosion resistance.

In summary, galvanized low carbon wire – ARMOR is a steel product with many applications. It has several advantages including high strength, good flexibility, corrosion resistance and more.

Advantages

Galvanized low carbon wire – ARMOR has several advantages

- This product has high strength
- good flexibility
- corrosion resistance, and more.
- High strength enables it to withstand high tensile and compressive forces.
- Good flexibility also allows it to be shaped easily.
- Corrosion resistance prevents it from getting corroded in damp and corrosive
- environments.

Coating we	ight (g/m2)	Electrical	Elongation	Toncilo strongth	Wire diameter
ASTM	BS	resistance (/km)	(%)	(mm)	(mm)
-	45	1952.30	<u>></u> 7.5	500-320	0.30
-	155	216.92	<u>≥</u> 10	500-340	0.90
-	180	_	<u>≥</u> 10	500-340	1.20
-	180	112.45	<u>≥</u> 10	500-340	1.25
150	195	68.64	<u>></u> 10	500-340	1.60
180	215	43.93	<u>≥</u> 10	500-340	2.00
240	245	28.11	<u>≥</u> 10	500-320	2.50
240	255	17.71	<u>≥</u> 10	500-340	3.15
270	275	10.98	<u>≥</u> 10	500-340	4.00

Packaging

Wire diameter (mm)	Inner diameter (mm)	Ourer diameter (mm)	Coil weight (Kg)
0.90-1.25	380-400	550-600	50-400
1.6 and above	450-500	650-750	50-400

Wire diameter (mm)	Type of Spool	Weight (Kg)
d ≤ 0.70	D 200	max-14





Drawn Square Wire

Drawn square wire is a type of metal wire that is transformed from a round steel bar into a square shape using a drawing machine. This product has a smooth and polished surface with defined thickness and length.

Application of Drawn Square Wire

This product has applications in various industries, especially construction, machinery manufacturing, and tool making.

Details

Drawn square wire is a type of wire produced by pulling a round wire through a drawing die. In this process, the diameter of the wire is reduced and its length is increased. This product has a smooth and polished surface and high strength.

Applications of Drawn Square Wire

This product has various applications including:

- Manufacturing various bolts and nuts
- Making shafts, couplings and other industrial parts
- Use in machinery manufacturing and construction industries
- Application in electrical and electronics industries
- Technical Specifications of Drawn Square Wire:

This product has the following technical specifications:

- Material: Mild steel
- Diameter: 6 to 50 mm
- Length: 6 to 12 meters
- Surface: Smooth and polished
- Tolerance: ± 0.01 mm

Advantages and Disadvantages of Drawn Square Wire:

Advantages:

- Corrosion resistant
- Higher strength compared to low carbon drawn steel wire
- Smooth and polished surface
- Heat resistant
- Very high formability and flexibility

Disadvantages:

- Higher price compared to round wire
- This product is produced in various sizes.
- The thickness of this product ranges from 2 mm to 10 mm.
- The length of drawn square wire also varies from 1 meter to 100 meters.

Drawn square wire can be produced in different colors. The color is usually determined based on international standards.



Wire Rope: Definition and Technical Specifications

Wire rope is a complex mechanical device that consists of multiple steel wires twisted into strands, which are then helically wrapped around a core. This structure provides a balance of flexibility, strength, and resistance to wear and bending fatigue.

Types Based on Constituent Materials

Steel Wire Ropes: The most common, made of various grades of steel. High carbon steel is typically used for its high strength and moderate flexibility.

Stainless Steel Ropes: Known for their resistance to corrosion and are used in harsh environmental conditions.

Galvanized and Coated Ropes: These are steel ropes with a zinc or plastic coating for added corrosion resistance.

Weave Patterns and Strand Composition

Single Lay Ropes: Consist of one layer of strands twisted around the core. Simpler in construction and used for general purposes.

Multi–Lay Ropes (Regular Lay, Lang Lay): Strands are laid in helical form over the core. Regular lay ropes have the wires and strands twisted in opposite directions, while in lang lay ropes, both are twisted in the same direction. Lang lay ropes offer more contact area and wear resistance.

Specialized Ropes: Include compacted ropes (where strands are compacted for increased strength and wear resistance) and rotation–resistant ropes (designed to reduce the tendency to spin or rotate under load). Core Types

Fiber Core (FC): Made from natural or synthetic fibers. Provides elasticity and flexibility, and improves the rope's resistance to crushing.

Independent Wire Rope Core (IWRC): Offers higher strength and resistance to heat and crushing. It is less flexible than a fiber core.

Wire Strand Core (WSC): Used in specific applications where additional strength and minimal stretch are desired.

Applications and Usage

Wire rope is used in a wide variety of applications, from simple tasks like securing cargo to critical uses in construction, mining, and marine environments. Its choice depends on factors like load requirements, environmental conditions, bending flexibility, and abrasion resistance.

In summary, wire rope is a highly versatile and engineered product with various types and configurations tailored to meet specific demands in terms of strength, flexibility, and environmental resistance. The selection of a particular type of wire rope is dependent on the specific requirements of the application it is intended for



Galvanized Fishing Wire: Definition and Characteristics

Galvanized fishing wire, often referred to as gillnet wire, is a specialized type of steel wire specifically designed for use in constructing gillnets and fishing nets. This wire is coated with zinc to ensure resistance to harsh marine environments, such as saltwater and sunlight.

Key Features:

Corrosion Resistance: The galvanized coating allows the fishing wire to withstand corrosion caused by saltwater and other corrosive elements in marine environments. Resistance to Marine Growth: The wire's surface is designed to minimize adherence by marine algae and fouling organisms, reducing wear and extending its useful life. Durability Against Predator Attacks: Given the potential for large predatory fish like sharks to attack the nets, the fishing wire must be strong enough to withstand sudden pressures and bites.

Applications:

Galvanized fishing wire is primarily used in the construction of gillnets and fishing nets. Due to its high resistance in tough marine conditions, it is suitable for deep-sea fishing as well as coastal fishing areas.

Summary:

Galvanized fishing wire is an engineered product designed to resist specific marine environmental conditions and to ensure durability and efficiency in harsh sea fishing scenarios. This wire is particularly suited for use in gillnets and fishing nets, where resistance to corrosion, mechanical stress, and marine animal attacks is of utmost importance.



CO2 Welding Wire: Characteristics and Usage

CO2 welding wire, commonly referred to as MIG (Metal Inert Gas) or MAG (Metal Active Gas) welding wire, is a consumable material used in welding processes for joining metals, particularly carbon steel. In this method, a steel wire is used as the consumable electrode, and CO2 gas serves as the shielding gas.

Key characteristics of CO2 welding wire include:

Consumable Material: The wire is typically made of carbon steel and may contain additional alloying elements to improve welding properties.

Use of CO2 Gas: CO2 gas is employed as a shielding agent in the welding process. This gas prevents the intrusion of oxygen and nitrogen from the air into the weld area, thereby averting impurities and weld cracks.

Welding Process: In the MIG/MAG welding process, the welding wire is continuously fed through a nozzle to the weld area. Simultaneously, the CO2 shielding gas envelops the welding zone, creating an oxygen-free environment.

Applications: CO2 welding wire is particularly used for welding carbon steel and metal structures in various industries, including construction, automotive manufacturing, and shipbuilding.

Advantages: This welding method offers a high speed of operation, good penetration into the base metal, and the ability to weld in various positions.

CO2 welding wire is designed to create strong and durable connections in metals, utilizing a process that offers high control and flexibility.



Key Features of Steel Fiber Reinforced Concrete:

Enhanced Strength: The addition of steel fibers to concrete improves its tensile and flexural strength. This enhancement makes the concrete more resistant to cracking and failure.

Improved Durability: Steel fiber reinforced concrete shows greater resistance to wear and fatigue from repetitive loads. It also offers increased durability against environmental impacts such as freeze-thaw cycles.

Cost Reduction: The use of SFRC can lead to reduced labor and maintenance costs, as it lessens the need for additional reinforcement like rebar or steel mesh.

Applications: This type of concrete is used in various projects, including industrial flooring, roads, sidewalks, tunnels, and retaining walls.

Varieties of Fibers: The steel fibers used can vary in shape, size, and constituent materials. The most common type is steel fibers, but fibers made from other alloys can also be used.

Overall, steel fiber reinforced concrete serves as an effective solution for enhancing the strength and durability of concrete under demanding physical and environmental conditions.Key Features of Steel Fiber Reinforced Concrete:

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Beadwire is a steel or other metal wire used in automotive tire production. Due to its high resistance to pressure and tension, it increases the strength and useful life of the tire. In addition to providing better stability and vehicle control at high speeds, these wires also increase the useful life of the tire.

> is a fundamental and vital role in the production of passenger car and bus roved performance and safety. These components lead to increased rating for tire manufacturing websites.

f using beadwire in automotive tire production include:

trength and rigidity: With strong and resistant wires, the tire is able to ier pressures and various road conditions.

mproved stability: Beadwire increases stability and better high-speed vehicle control. ixtended tire life: With resistant wires, tire life is increased and the need for premature placeme it is reduced.

cations of beadwire in automotive tire production include:

senger car tire production: These wires are widely used in passenger car tire to improve strength, rigidity and useful life.

tire production: These wires play an important role in increasing safety and ability of bus tires.

Given these atures and advantages, beadwire is used as a vital component in r tire production, playing a key role in improving vehicle performance and



Comprehensive Overview of Welding Electrodes

Definition of Welding Electrodes

Welding electrodes are fundamental components in electric a They are divided into two main categories: consumable electrodes. Consumable electrodes melt gradually during the become part of the weld. In contrast, non-consumable electrod tungsten, do not melt and are solely used to generate the electri

Types of Welding Electrodes

Coated Electrodes: These have a covering layer of specific i shielding the weld area from oxidation, generating protective alloying elements.

Bare Electrodes: Typically made from pure metal or alloys, use additional protection is not required.

Tungsten Electrodes (for TIG welding): Made from tungsten non-melting electric arc.

Key Characteristics of Electrodes

Material: Can be made from low-carbon steel, alloy steel, aluminetals.

Coating: Various types are available, each offering unique pro resistance, enhanced strength, and reduced cracking.

Diameter: Varies based on the application and thickness of the b Classification Based on Chemical Composition and Application

Cellulosic Electrodes: High cellulose content for fast, deep penet Rutile Electrodes: Contain titanium dioxide (rutile) for easier and Acid Electrodes: Suitable for medium–strength structural steel w Special Alloy Electrodes: Designed for specific metals like stair copper, etc.

Electrode Properties

Arc Stability: The quality of the electrode directly impacts the s arc.

Ease of Welding: Some electrodes facilitate smoother welding o unique chemical compositions.

Crack Resistance: Crucial for welding metals exposed to conditions.

Corrosion Resistance: Important for metals in acidic or alkaline el Importance of the Right Electrode Choice

Choosing the appropriate electrode for each specific applic selection should be based on the type of base metal, welding required properties of the final weld. Incorrect use of electrodes quality and even structural failure.

Safety Considerations

Handling: Proper handling and storage of electrodes are contamination and deterioration.

Health Hazards: Awareness of potential health hazards, such as fumes and electric shocks, is important for safe welding practices.

Conclusion

Welding electrodes play a vital role in determining the quality, strength, and durability of a weld. The right choice, combined with proper welding techniques, ensures a strong and reliable weld, suitable for various industrial and construction applications.









