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IPH ROPE GRADE | EQUIVALENTS

Rope grade designation	Wire tensi	e strength	Rope grade value [N/mm²]	Rope grade value [psi]	
designation	Outer [N/mm²] Inner [N/mm²]		value [N/mm²]	value [psi]	
TRACTION	1370	1770	1500	210000	
FLIC	1570	1770	1670	234000	
EHS	1770	1770	1770	248000	
	1770	1770	1770	240000	



STEEL WIRE ROPE

for North American Elevators

Elevators are the most widely used form of transportation globally. As buildings continue to rise taller around the world, the demand for enhanced safety and comfort grows every day. At IPH, we manufacture and certify our products in compliance with ASME A17.6 and ISO 4344 standards, ensuring the design and construction of steel wire ropes tailored to each specific market and application.

With over 30 years of experience in the elevator industry, IPH combines expertise and advanced technology to develop steel wire ropes that meet the highest international standards. Our products are exported to key markets in Latin America, Europe, the U.S., and Asia, serving a global clientele.

Additionally, our in-house production of both wires and sisal cores gives us the flexibility to create custom rope combinations, offering tailored solutions for every elevator system.

IPH QUALITY

The quality certificate issued by IPH guarantees traceability and compliance with both national and international standards. These standards are applied at every stage of the manufacturing process, from raw material reception to the final product.

MANAGEMENT SYSTEM CERTIFICATIONS:

American Petroleum Institute, API Monogram Spec Q1, Spec 9A. TÜV Rheinland, ISO 9001:2015. Fundaçao Vanzolini NBR, ISO 9001:2015.

WIRE ROPES SPECIFIC CERTIFICATIONS:

Marine use

Lloyd's Register plant certification.

Elevators

IRAM-INTI and IRAM 840 product certification.

General purpose

ABNT NBR and ISO 2408 product certification.

Offshore containers lifting slings DNV 2.7-1 product certification.

Wire rope slings

IRAM 5221 Flemish eye product certification.



TRACTION DRIVE AND COMPENSATING ROPES FOR CONVENTIONAL ELEVATORS



Advantages and features

- Lubricated high density natural fiber core made of sisal with perfect diameter uniformity.
- High resistance to bending fatigue.
- Diameter uniformity assures a smooth run, free from vibration and noise.
- Specially formulated lubricant made for traction sheaves.
- The tensile strength resistance of the "dual" wires, with inner wires of 1770 N/mm² raises the overall resistance while the outer wires of 1370 N/mm² minimizes the wear on the sheaves.

For conventional elevators, the traction rope recommended is the 8x19 construction, with sisal fiber core manufactured in our facilities. Its excellent fatigue resistance complies with the highest international standards. This is a key factor regarding its life time and safety.

Elastic Behavior

Diameter tolerance	Constructional stretch	Elastic stretch	Total stretch	E-Module
[No load]: +2/ +5% [At 10% MBL]: 0/ +3%	Max. 0.6%	Max. 0.2%	Constructional + Elastic	5000 daN/mm²

Minimum breaking load

Diameter		Weight	t factor	IPH code	1370/177	70 N/mm²
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
9.50	3/8	0.307	0.206	00470013095005ND	-	9,300
10.00	-	0.340	0.228	00470013100005ND	46.0	-
11.00	7/16	0.411	0.276	00470013110005ND	-	12,500
12.00	-	0.490	0.329	00470013120005ND	66.2	-
12.70	1/2	0.548	0.368	02470013130005ND	-	17,500
13.00	-	0.575	0.386	00470013130064ND	77.7	-
14.30	9/16	0.685	0.460	00470013143005ND	-	22,300
16.00	5/8	0.870	0.585	00470013160005ND	-	26,500
17.50	11/16	1.040	0.699	00470013175005ND	-	31,700
18.00	-	1.100	0.739	00470013180005ND	149	-
19.00	3/4	1.230	0.827	00470013190005ND	-	37,300
22.00	7/8	1.230	0.827	00470013220005ND	-	50,100

Minimum breaking load

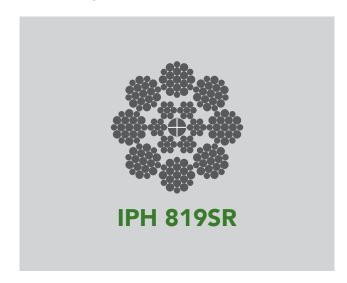
Diameter		Weight	t factor	IPH code	1770 1	V/mm²
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
9.50	3/8	0.307	0.206	00470013095005QD	-	10,500
10.00	-	0.340	0.228	00470013100005QD	51.9	11,700
11.00	7/16	0.411	0.276	00470013110005QD	-	14,100
12.00	-	0.490	0.329	00470013120005QD	74.7	16,800
12.70	1/2	0.548	0.368	02470013130005QD	-	18,800
13.00	-	0.575	0.386	00470013130064QD	87.6	19,700
14.30	9/16	0.685	0.460	00470013143005QD	-	23,800
16.00	5/8	0.870	0.585	00470013160005QD	-	29,900
17.50	11/16	1.040	0.699	00470013175005QD	-	35,700
18.00	-	1.100	0.739	00470013180005QD	169	37,800
19.00	3/4	1.230	0.827	00470013190005QD	-	42,000
22.00	7/8	1.230	0.827	00470013220005QD	-	56,400

Construction: 8x19 Seale.

Construction: 8x19 Seale.
Core: Natural fiber core.
Coating: Bright lubricated (galvanized on demand).
Rope grade: 1370/1770 N/mm² - Dual tensile or 1570 N/mm² - Single tensile.
Lay Type: RRL (RLL on demand).
Normative Reference: ISO 4344 / ASME A 17.6.
For other rope diameters or grades not specified in this catalog, please contact IPH.



TRACTION DRIVE AND **COMPENSATING ROPES FOR** MID / HIGH-RISE ELEVATORS



Advantages and features

- Special steel reinforced fiber core provides both flexibility and good elastic properties (low elongation).
- Good resistance to bending fatigue and abrasion.
- High breaking load.
- Excellent diameter stability, minimizes vibrations and noise.

Elastic Behavior

Diameter tolerance	Constructional stretch	Elastic stretch	Total stretch	E-Module
[No load]: 0/ +3% [At 10% MBL]: -1%	Max. 0.3%	Max. 0.18%	Constructional + Elastic	7000 daN/mm²

Minimum breaking load

Diameter		Weight	: factor	IPH code	1570 N	N/mm²
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
8.00	5/16	0.265	0.178	00470053080005OD	-	9,100
9.50	3/8	0.374	0.252	00470053095005OD	-	12,800
10.00	-	0.415	0.279	00470053100005OD	63.0	-
11.00	7/16	0.502	0.337	00470053110005OD	-	17,100
12.00	-	0.598	0.402	00470053120005OD	90.7	-
12.70	1/2	0.669	0.450	00470053127005OD	_	22,700
13.00	-	0.702	0.472	00470053130005OD	107	-
16.00	5/8	1.061	0.713	00470053160005OD	-	36,200
17.50	11/16	1.269	0.853	00470053175005OD	-	43,400
18.00	-	1.346	0.905	00470053180005OD	204	-
19.00	3/4	1.499	1.008	00470053190005OD	-	51,000

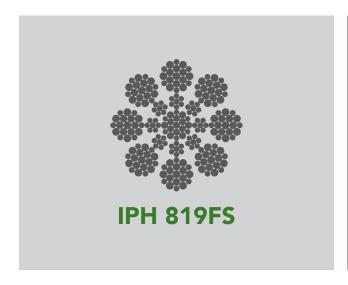
Construction: 8x19 Seale (Warrington or Filler construction on demand).

Core: Steel reinforced fiber core.

Coating: Bright lubricated (galvanized on demand).
Rope grade: 1570 N/mm² - Single tensile.
Lay Type: RRL (RLL on demand).

Normative Reference: ISO 4344 / ASME A 17.6.

TRACTION DRIVE AND **COMPENSATING ROPES FOR** HIGH SPEED ELEVATORS



Advantages and features

- Independent wire rope core combines good flexibility and minimizes rope stretch.
- High resistance to bending fatigue and abrasion.
- High breaking load.
- Excellent diameter stability, minimizes vibration and noise on high rise elevators.
- Provides long service rope life.

Elastic Behavior

Diameter tolerance	Constructional stretch	Elastic stretch	Total stretch	E-Module
[No load]: 0/ +3% [At 10% MBL]: -1%	Max. 0.12%	Max. 0.18%	Constructional + Elastic	7000 daN/mm²

Minimum breaking load

Diameter		Weight	t factor	IPH code	1570 1	N/mm²
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
8.00	5/16	0.265	0.178	00470033080005OD	-	9,200
9.50	3/8	0.374	0.252	00470033095005OD	-	13,000
10.00	-	0.415	0.279	00470033100005OD	64.3	-
11.00	7/16	0.502	0.337	00470033110005OD	-	17,500
12.00	-	0.598	0.402	00470033120005OD	92.5	-
12.70	1/2	0.669	0.450	00470033127005OD	-	23,400
13.00	-	0.702	0.472	00470033130005OD	109	-
16.00	5/8	1.061	0.713	00470033160005OD	-	36,900
17.50	11/16	1.269	0.853	00470033175005OD	-	44,300
18.00	-	1.346	0.905	00470033180005OD	208	_
19.00	3/4	1.499	1.008	00470033190005OD	-	52,200

Construction: 8x19 Seale (Warrington or Filler construction on demand).

Core: Independent wire rope core (IWRC).

Coating: Bright lubricated (galvanized on demand).
Rope grade: 1570 N/mm² - Single tensile.
Lay Type: RRL (RLL on demand).

Normative Reference: ISO 4344 / ASME A 17.6.

HIGH PERFORMANCE WIRE ROPES



Advantages and features

- Lubricated high density sisal fiber core with perfect diameter uniformity.
- Increase of metallic area due to the compacted strands. Increase of breaking load and lower elongation.
- Higher resistance to bending fatigue which increases rope service life.
- Compacted strands improve abrasion resistance and minimizes vibration and noise on ride.

Elastic Behavior

Diameter tolerance	Constructional stretch	Elastic stretch	Total stretch	E-Module
[No load]: 2/ +5% [At 10% MBL]: 0/ +3%	Max. 0.6%	Max. 0.2%	Constructional + Elastic	5000 daN/mm²

Minimum breaking load

Diameter		Weight factor		IPH code	1570 I	N/mm²	
	[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
	12.70	1/2	0.600	0.403	00471013127005OD	-	19,300
	13.00	-	0.630	0.423	00471013130005OD	90.2	-
	16.00	5/8	0.950	0.638	00471013160005OD	-	30,600
	17.50	11/16	1.140	0.766	00471013175005OD	-	36,600
	18.00	-	1.200	0.808	00471013180005OD	172	-
	19.00	3/4	1.340	0.900	00471013190005OD	_	43,200

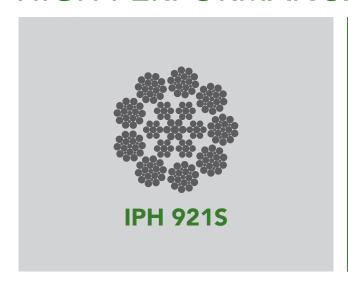
Construction: 8xK19 Seale Core: Natural fiber core

Coating: Bright lubricated (galvanized on demand). Rope Grade: 1570 N/mm² - Single tensile

Lay Type: RRL (RLL on demand). Normative Reference: ISO 4344 / ASME A17.6.



HIGH PERFORMANCE WIRE ROPES



Advantages and features

- 9 strand configuration with steel core provides a highly rounded surface.
- Increasing the number of wires makes rope more flexible.
- Decreases contact pressure on groove with less sheave wear.
- Increase of bending fatigue resistance.
- Very good diameter stability during service.

Elastic Behavior

Diameter tolerance	Constructional stretch	Elastic stretch	Total stretch	E-Module
[No load]: 0/ +2% [At 10% MBL]: -1%	Max. 0.10%	Max. 0.12%	Constructional + Elastic	9000 daN/mm²

Minimum breaking load

Diameter		Weig	ht factor	IPH code	1570 1	N/mm²
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
9.50	3/8	0.380	0.255	00524033095005OD	-	13,500
10.00	-	0.420	0.282	00525033100005OD	67.0	-
11.00	7/16	0.510	0.343	00525033110005OD	-	18,200
12.00	-	0.600	0.403	00525033120005OD	96.4	-
12.70	1/2	0.670	0.450	00525033127005OD	-	24,300
13.00	-	0.710	0.477	00525033130005OD	113	-
16.00	5/8	1.070	0.719	00525033160005OD	-	38,700
17.50	11/16	1.280	0.860	00525033175005OD	-	46,300
18.00	-	1.350	0.907	00525033180005OD	218	-
19.00	3/4	1.510	1.015	00525033190005OD	-	54,400
22.00	7/8	2.020	1.357	00525033220005OD	-	73,100

Construction: 9x19 Seale or 9x21 Filler (depending on diameter).

Core: Independent wire rope core (IWRC).

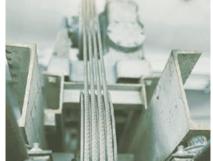
Coating: bright lubricated (galvanized on demand).

Rope grade: 1570 N/mm² - Single tensile.

Lay Type: RRL (RLL on demand).

Normative Reference: ISO 1311/ ASME A17.6.







COMPENSATING ROPES





Elastic Behavior

Constructional stretch	Elastic stretch	Total stretch	E-Module	
Max. 0.6%	Max. 0.2%	Constructional + Elastic	5000 daN/mm²	

Minimum breaking load

Diameter		Weight factor		IPH code	1370/1770 N/mm²	
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
8.00	5/16	0.218	0.146	00470023080005ND	-	6,600
9.50	3/8	0,307	0.206	00470023095005ND	-	9,300
10.00	-	0.340	0.228	00470023100005ND	46.0	-
11.00	7/16	0.411	0.276	00470023110005ND	-	12,500
12.00	-	0.490	0.329	00470023120005ND	66.2	-
12.70	1/2	0.548	0.368	00470023127005ND	-	16,700
13.00	-	0.575	0.386	00470023130005ND	77.7	-
16.00	5/8	0.870	0.585	00470023160005ND	-	26,500
17.50	11/16	1.040	0.699	00480023175005ND	-	31,700
18.00	-	1.100	0.739	00480023180005ND	149	-
19.00	3/4	1.230	0.827	00480023190005ND	-	37,300
22.00	7/8	1.650	1.109	00480023220005ND	-	50,100

Construction: Class 8x19 (Seale or Filler construction depending on diameter).

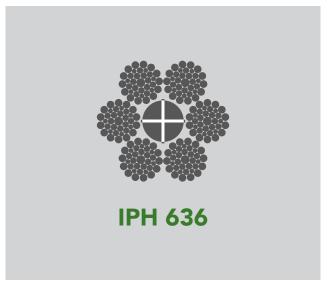
Core: Synthetic fiber core.

Coating: Bright lubricated (galvanized on demand). Rope grade: 1370/1770 N/mm² - Dual tensile.

Lay Type: RRL.

Normative Reference: ISO 4344 / ASME A17.6.

COMPENSATING ROPES





Minimum breaking load

Diameter	Weight factor		IPH code	1960 N/mm²	
[mm]	[kg/m]	[lb/ft]		[kN]	[lbs]
16.00	0.920	0.618	00320023160006SB	166	37,300
18.00	1.160	0.779	00320023180006SB	210	47,200
19.00	1.300	0.874	00320023190006SB	232	52,200
20.00	1.440	0.968	00320023200006SB	259	58,200
22.00	1.740	1.169	00320023220006SB	313	70,400
24.00	2.110	1.418	00320023240006SB	373	83,900
25.00	2.290	1.539	00320023250006SB	404	90,800
26.00	2.480	1.666	00320023260006SB	437	98,200
27.00	2.680	1.801	00320023270006SB	472	106,100
28.00	2.880	1.935	00320023280006SB	507	114,000
29.00	3.090	2.076	00320023290006SB	544	122,300
30.00	3.300	2.217	00320023300006SB	582	130,800
31.00	3.530	2.372	00320023310006SB	622	139,800
32.00	3.760	2.527	00320023320006SB	662	148,800
33.00	4.000	4.240	00320023330006SB	704	158,300
34.00	4.240	2.849	00320023340006SB	748	168,200
35.00	4.500	3.024	00320023350006SB	792	178,000
36.00	4.760	3.199	00320023360006SB	838	188,400
37.00	5.020	3.373	00320023370006SB	885	198,900
38.00	5.300	3.561	00320023380006SB	934	210,000

Construction: 6x36. Core: Synthetic fiber core.

Coating: bright lubricated (galvanized on demand).

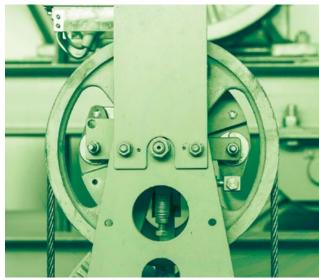
Rope grade: 1960 N/mm² - Single tensile.

Lay Type: RRL.

Normative Reference: ISO 4344 / ISO 2408.

OVERSPEED CONTROLLERS GOVERNOR ROPES





Minimum breaking load

Diameter		Weight factor		IPH code	1370 / 1770 N/mm²	
[mm]	[inches]	[kg/m]	[lb/ft]		[kN]	[lbs]
9.50	3/8	0.307	0.206	00470023095005ND	-	9,300
13.00	-	0.575	0.386	00470023130005ND	77.7	-
16.00	5/8	0.870	0.585	00470023160005ND	-	26,500
17.50	11/16	1.040	0.699	00480023175005ND	-	31,700
18.00	-	1.100	0.739	00480023180005ND	149	-
19.00	3/4	1.230	0.827	00480023190005ND	-	37,300

Construction: 8x25 Filler. Core: Synthetic fiber core.

Coating: Bright lubricated (galvanized on demand). Rope Grade: 1370/1770 N/mm² - Dual tensile.

Lay Type: RRL.

Normative Reference: ISO 4344 / ASME A 17.6.

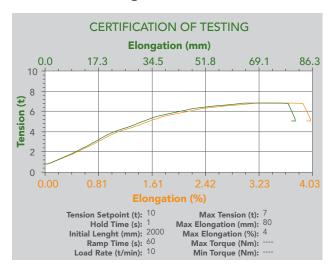


IPH VALUE

- 1. Detailed and strict process controls that includes:
 - Metallographic properties (grain size, metallographic structure, inclusions, segregation).
 - Mechanical properties (tensile strength, hardness, ductility, bending fatigue, stretch, torsion).
 - Chemical properties (chemical composition, coating control, lubricant content).
 - Dimensional properties (diameter, ovalization, density, length, mass, helix preforming).
- 2. Traceability and certification.
- 3. Custom engineered designs.
- 4. Skilled staff.
- 5. Customer oriented.

TENSILE STRENGTH / ELONGATION TESTS

In tensile strength test benches, diameter reduction under load and elongation is monitored.



FINAL INSPECTION

Dimensional controls, a complete visual inspection and a verification of the production records are carried out at this stage.



FATIGUE TESTS

Special bending fatigue benches for rope testing allow us to monitor the quality and stability of the entire process under different conditions.





LATIN AMERICA'S PREMIER INDUSTRIAL LOGISTICS SYSTEM

Founded in 1949 in Buenos Aires, Argentina, we at IPH are proud to be a leading manufacturer of steel wire ropes in Latin America. Over the years, we've built our reputation by delivering solutions that meet the highest standards, earning the trust of our customers through innovation and a commitment to excellence.

From the very start, we embraced a business model focused on technology and investment. This, combined with our dedication to quality and customer service, has allowed us to thrive in competitive markets across five continents.

Our plant in Buenos Aires spans 484,000+ square feet (45,000 square meters) and produces up to 1,500 tons per month. With cutting-edge technology, a skilled team, and a strong quality management system, we ensure that everything we make meets the highest international standards.

What sets us apart is our vertically integrated production process. We manufacture everything ourselves, from the wires and fiber to the steel cores and wooden reels, giving us the flexibility to optimize design and guarantee the highest quality.

We are also excited to be a growing player in the USA and Canada, where several of our trusted partners in the elevator industry stock and distribute our cables. Our products are already trusted by some of the largest OEMs and independent companies alike. As we continue to expand, we are eager to develop new partnerships and strengthen our presence in the North American elevator industry.

With service centers in Buenos Aires and São Paulo, we keep a large stock of finished goods and offer a full range of services, from wire rope sling manufacturing to custom cutting, testing, and certification. This enables us to provide comprehensive lifting and handling solutions that meet your needs.

At IPH, we believe in creating lasting relationships with our clients, and our modern factory and service centers help us deliver efficient operations and top-tier service, every step of the way.





IPH. EVOLUTION AS AN ATTITUDE







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