

**CABLE DE ACERO, T/S: 160-180kg, ASPHALTUM GREASE, RHRL
(FC significa alma de fibra y IWRC significa alma de acero)**

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	CAPACIDAD MÁXIMA (RUPTURA) (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5112	6X19+FC	1/4"	500m	70	1670	RHRL	2.112	352
HK5113	6X19+FC	5/16"	500m	110.5	1670	RHRL	3.296	549
HK5114	6X19+FC	3/8"	500m	156	1670	RHRL	4.755	793
HK5115	6X19+FC	7/16"	500m	213	1670	RHRL	6.459	1,077
HK5116	6X19+FC	1/2"	500m	279	1670	RHRL	8.439	1,407
HK5118	6X19+FC	5/8"	500m	438	1670	RHRL	13.224	2,204
HK5119	6X19+FC	3/4"	500m	630	1670	RHRL	19.082	3,180

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	RESISTENCIA A LA RUPTURA (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5120	6X19+IWRC	1/4"	500m	78	1670	RHRL	2.316	386
HK5121	6X19+IWRC	5/16"	500m	122	1670	RHRL	3.571	595
HK5122	6X19+IWRC	3/8"	500m	172	1670	RHRL	5.143	857
HK5123	6X19+IWRC	1/2"	500m	307	1670	RHRL	9.122	1,520
HK5125	6X19+IWRC	5/8"	500m	481.5	1670	RHRL	14.306	2,384
HK5126	6X19+IWRC	3/4"	500m	695	1670	RHRL	20.643	3,441

CABLE GALVANIZADO, T/S: 160-180kg, RUST PREVENTIVE OIL, RHR

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	RESISTENCIA A LA RUPTURA (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5127	7x19	3/32"	457m	10.1	1770	RHRL	378	63
HK5128	7x19	1/8"	457m	17.8	1770	RHRL	673	112
HK5129	7x19	3/16"	457m	40.2	1770	RHRL	1.510	252
HK5130	7x19	1/4"	457m	71.3	1770	RHRL	2.673	446
HK5178	7x19	5/16"	457m	111.5	1770	RHRL	4.122	687
HK5179	7x19	3/8"	457m	157.2	1770	RHRL	5.939	990
HK5182	7x19	1/2"	457m	281	1770	RHRL	10.541	1,757

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	RESISTENCIA A LA RUPTURA (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5131	7x7	3/32"	100m	2.2	1770	RHRL	408	68
HK5132	7x7	1/8"	100m	4	1770	RHRL	714	119
HK5133	7x7	3/16"	100m	8.9	1770	RHRL	1.612	269
HK5171	7x7	1/16"	100m	1	1770	RHRL	184	31
HK5172	7x7	1/16"	457m	4.6	1770	RHRL	184	31

CABLE GALVANIZADO CON FORRO PVC, T/S: 160-180kg, RHRL

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	RESISTENCIA A LA RUPTURA (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5136	7x19	3/32 - 1/8"	100m	2.8	1770	RHRL	378	63
HK5134	7x19	3/32 - 1/8"	457m	12.6	1770	RHRL	378	63
HK5137	7x19	1/8 - 3/16"	100m	5.5	1770	RHRL	673	112
HK5135	7x19	1/8 - 3/16"	457m	25.2	1770	RHRL	673	112
HK5181	7x19	3/16 - 1/4"	100m	11	1770	RHRL	1.510	252
HK5180	7x19	3/16" - 1/4"	457m	50.3	1770	RHRL	1.510	252

CABLE GALVANIZADO CON FORRO PVC COLOR NEGRO, T/S: 160-180kg, RHRL

CLAVE	DESCRIPCIÓN	DIÁMETRO	LARGO (m/rollo)	PESO NETO (kg)	T/S (N/mm ²)	LAY	RESISTENCIA A LA RUPTURA (Ton/m)	CAPACIDAD DE TRABAJO (kg)
HK5183	7x19	3/16 - 1/4"	457m	50.3	1770	RHRL	1.510	252



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Date of issue: 29 December, 2008

INSPECTION REPORT
(non-negotiable)

- Description and Quantity of Commodity: STEEL WIRE ROPES as per sales contract

- Name & Address Of Buyer: HERRAMIENTAS IMPORTADAS MONTERREY SA.DE CV.

- Name & Address Of Seller:

- Inspection Date & Place: 23 Dec 2008 AT Nantong city, China

- L/C No.:

- SALES CONTRACT No.:

- Nature Of Inspection:

Item	Result
Quantity check	Subject to buyer's evaluation
Packing and marking check	Acceptable
Visual quality check	Acceptable
Dimension check	Acceptable
Witness test	Acceptable

- Inspector: Robin Rao

This is to report that we, SGS-CSTC Shanghai Branch at the request of HERRAMIENTAS IMPORTADAS MONTERREY SA.DE CV. conducted the following inspection:

Instrument checklist

During the inspection, the following instrument calibration status has been checked for inspection:

No.	INSTRUMENT DESCRIPTION	CALIBRATION STATUS	CERTIFICATE NO. (OPTIONAL)
1	Vernier caliper (0-150mm)	Valid	N/A

Inspection Finding:

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1. Quantity Check:

- Reference documents:
→ Sales contract
- Method of quantity check
→ Total package counting

NO.	DESCRIPTION	REQ. QTY(reel)	ACT. QUANTITY(reel)
ASPHALTUM GREASE THAT COMPLY WITH GB/T 20118-2006			
1	ungalvanized steel wire rope 6x19 +FC 5/16" 500mts	7.94	6
2	ungalvanized steel wire rope 6x19+FC 3/8" 500mts	9.53	12
3	ungalvanized steel wire rope 6x19+FC 7/16" 500mts	11.11	3
4	ungalvanized steel wire rope 6x19+FC 1/2" 500mts	12.7	12
5	ungalvanized steel wire rope 6x19+FC 5/8" 500mts	15.9	6
6	ungalvanized steel wire rope 6x19+IWRC 1/4" 500mts	6.4	12
7	ungalvanized steel wire rope 6x19+IWRC 5/16" 500mts	7.94	6
8	ungalvanized steel wire rope 6x19+IWRC 3/8" 500mts	9.53	12
9	ungalvanized steel wire rope 6x19+IWRC 1/2" 500mts	12.7	12
10	ungalvanized steel wire rope 6x19+IWRC 9/16" 500mts	14.3	3
11	ungalvanized steel wire rope 6x19+IWRC 5/8" 500mts	15.9	4
RUST PREVENTIVE OIL THAT COMPLY WITH GB/T 20118-2006			
12	galvanized aircraft cable 7X19 1/8" 1500'	3.2	20
13	galvanized aircraft cable 7X19 3/16" 1500'	4.8	30
14	galvanized aircraft cable 7X19 1/4" 1500'	6.4	50
15	galvanized aircraft cable 7X7 1/8" 100mts	3.2	120
16	galvanized aircraft cable 7X7 3/16" 100mts	4.8	100
17	pvc coated galvanized aircraft cable 7X19 1/8"-3/16" 1500'	3.2-4.8	30
18	pvc coated galvanized aircraft cable 7X19 3/32"-1/8" 100mts	2.4-3.2	20
19	galvanized aircraft cable 7X19 5/16" 1500'	7.94	30
20	galvanized aircraft cable 7X19 3/8" 1500'	9.53	30
21	pvc coated galvanized aircraft cable 7x19 3/16-1/4" 100mts	4.8-6.4	30

Note:

THE QUANTITY CHECKED IS THE SAME AS THE DOCUMENTS GIVEN SALES CONFIRMATION

2. Packing and marking check

- Sample size: one package per type

Packing check

The wire ropes were coiled in wooden reels.

The reel was wrapped with paper then the reel was fastened with nylon belt.

Marking check

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Shipping mark:
N/M
Label on reels:



3. Visual Quality Check:

- Sample size: one package per type
- The steel wire ropes were found: Ungalvanized with black grease and galvanized on the surface.
- The steel wire ropes were brand new and no obvious visual defects were found on the surfaces.

4. Dimension Check:

- Sample size: one package per type
- Reference document: GB 20118-2006
- Samples were randomly selected by SGS inspector and checked under the supervision for diameter as below:

Item	Description of Products	Required Diameter (mm)	Actual Diameter (mm)
1	ungalvanized steel wire rope 6x19 +FC 5/16" 500mts	7.94+6%	7.98~8.1
2	ungalvanized steel wire rope 6x19+FC 3/8" 500mts	9.53+6%	9.58~9.8
3	ungalvanized steel wire rope 6x19+FC 7/16" 500mts	11.11+6%	11.4~11.6
4	ungalvanized steel wire rope 6x19+FC 1/2" 500mts	12.7+6%	12.8~13
5	ungalvanized steel wire rope 6x19+FC 5/8" 500mts	15.9+6%	15.9~16.1
6	ungalvanized steel wire rope 6x19+IWRC 1/4" 500mts	6.4+7%	6.8~6.9
7	ungalvanized steel wire rope 6x19+IWRC 5/16" 500mts	7.94+6%	7.98~8.05
8	ungalvanized steel wire rope 6x19+IWRC 3/8" 500mts	9.53+6%	9.56~9.68
9	ungalvanized steel wire rope 6x19+IWRC 1/2" 500mts	12.7+6%	12.8~12.9
10	ungalvanized steel wire rope 6x19+IWRC 9/16" 500mts	14.3+6%	14.4~14.8
11	ungalvanized steel wire rope 6x19+IWRC 5/8" 500mts	15.9+6%	15.9~16.1
12	galvanized aircraft cable 7X19 1/8" 1500'	3.2+8%	3.3~3.6
13	galvanized aircraft cable 7X19 3/16" 1500'	4.8+7%	4.8~5.0
14	galvanized aircraft cable 7X19 1/4" 1500'	6.4+6%	6.6~6.8
15	galvanized aircraft cable 7X7 1/8" 100mts	3.2+8%	3.3~3.8
16	galvanized aircraft cable 7X7 3/16" 100mts	4.8+7%	4.9~5.0

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17	pvc coated galvanized aircraft cable 7X19 1/8"-3/16" 1500'	3.2-4.8	4.8~4.9
18	pvc coated galvanized aircraft cable 7X19 3/32"-1/8" 100mts	2.4-3.2	3.2~3.3
19	galvanized aircraft cable 7X19 5/16" 1500'	7.94+6%	8.0~8.1
20	galvanized aircraft cable 7X19 3/8" 1500'	9.53+6%	9.6~9.8
21	pvc coated galvanized aircraft cable 7x19 3/16-1/4" 100mts	4.8-6.4	6.5~6.6

Remark: The results were acceptable according to GB 20118-2006.

5. Witness testing

- Sample size: one piece per type
- Reference document: GB 20118-2006

Mechanical Property

3.2.1 Breaking force of Steel Wire Ropes

Samples selected randomly were tested for breaking force as follow under the supervision:

Item	Description of Products	Min breaking force (kN)	Inspected Breaking force (kN)	Pass or Fail
1	unalvanized steel wire rope 6x19 +FC 5/16" 500mts	34.25	36	Pass
2	unalvanized steel wire rope 6x19+FC 3/8" 500mts	49.35	51	Pass
3	unalvanized steel wire rope 6x19+FC 7/16" 500mts	66.95	67	Pass
4	unalvanized steel wire rope 6x19+FC 1/2" 500mts	87.64	90	Pass
5	unalvanized steel wire rope 6x19+FC 5/8" 500mts	137.37	139	Pass
6	unalvanized steel wire rope 6x19+IWRC 1/4" 500mts	23.7	36	Pass
7	unalvanized steel wire rope 6x19+IWRC 5/16" 500mts	37.04	40	Pass
8	unalvanized steel wire rope 6x19+IWRC 3/8" 500mts	53.37	60	Pass
9	unalvanized steel wire rope 6x19+IWRC 1/2" 500mts	94.78	98	Pass
10	unalvanized steel wire rope 6x19+IWRC 9/16" 500mts	120.17	128	Pass
11	unalvanized steel wire rope 6x19+IWRC 5/8" 500mts	148.19	160	Pass
12	galvanized aircraft cable 7X19 1/8" 1500'	6.45	8.5	Pass
13	galvanized aircraft cable 7X19 3/16" 1500'	14.5	18	Pass
14	galvanized aircraft cable 7X19 1/4" 1500'	25.8	31	Pass
15	galvanized aircraft cable 7X7 1/8" 100mts	6.5	8.5	Pass
16	galvanized aircraft cable 7X7 3/16" 100mts	14.64	18	Pass
17	pvc coated galvanized aircraft cable 7X19 1/8"-3/16" 1500'	3.29	3.8	Pass
18	pvc coated galvanized aircraft cable 7X19 3/32"-1/8" 100mts	5.94	6.2	Pass
19	galvanized aircraft cable 7X19 5/16" 1500'	39.7	45	Pass
20	galvanized aircraft cable 7X19 3/8" 1500'	57.2	61	Pass
21	pvc coated galvanized aircraft cable 7x19 3/16-1/4" 100mts	14.5	16	Pass

Remark: Due to the type and class of the wire rope were not indicated in the standard GB 20118-2006 sheet. So the minimum broken force was accordance with the formula $F_{min}=d_2 \times K \times R_r / 1000$.

And where

d_2 : is the normal diameter of the rope, in mm

K : $k=0.307$ is the empirical factor for the minimum breaking force for the 6x19+FC rope class and core type; $k=0.356$ for 6x19IWRC; $k=0.359$ for 7x7 IWRC; $k=0.356$ for 7x19 IWRC.

R_r : is the rope grade intended by the manufacturer

The wire rope was tested by broken with complete strand.

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Attachment: photos during inspection



The surface of galvanized wire rope



The surface of ungalvanized wire rope



Take the sample



Complete strand breaking Testing



the PVC coating wire rope