

H07RN-F

TITANEX, the Nexans H07RN-F is a flexible cable, elastomer insulated and sheathed cable with a copper core.

DESCRIPTION

Advantages

- Very high flexibility
- Very high crush resistance
- Good resistance to chemicals, oils and vibrations

TITANEX® H07RN-F cables with EPR rubber insulation and rubber sheathing offer outstanding mechanical properties to meet your most varied requirements. No matter what the installation conditions are, whether indoors or outdoors, in cramped and hazardous environments or in the presence of oils and chemicals, TITANEX combines strength and flexibility to meet all your requirements.

For more than 50 years the TITANEX® cables have been recognized and are the guarantee of reliable installations in industrial environments (factories, construction sites, ports, ...) whether they are fixed or mobile such as for cranes, machines tool connections, motor power supplies The mechanical qualities of TITANEX cables also make them suitable for use in event environments, such as festivals, concerts and sport events, where the cable is exposed without protection and can be used several times.

- Core temperature : 90°C
- Operating Voltage : 450/750V mobile, 0.6/1kV fixed. TITANEX H07RN-F cables have been designed to limit the generation and spread of fire and smoke.
- Reaction to fire : Eca (according to EN 50575:2014+A1:2016)
- Flame retardant (IEC 60332-1, C2)

Installation

TITANEX H07RN-F cables can be laid in cable trays, on shelves, inside ducts or fixed to walls, outside with or without protection. They can also be immersed with additional mechanical protection. Additionally, they can also be installed outdoors without protection (UV resistance).

Minimum bending radius

- Dynamic : 6 to 8 x outer diameter of the cable.
- Static : 3 x outer diameter of the cable if OD < or = 12mm ; 4x if OD > 12mm.

Laying cable conductors



Lead free
Yes



Cable flexibility
Flexible



Chemical
resistance
Accidental



Water proof
Good



Max. conductor
temp. in service
90 °C



Oil resistance
Yes



Operating temp.
-25 - 55 °C



RoHS compliant
Yes



STANDARDS

International 2014/68/EU; EN 50525-2-21;
EU Directive 2011/65/
EU (RoHS); HD 516;
IEC 60245-4 type 66

National NF C 32-102-4

When pulling the cable, all conductors must be equally stressed. The tensile force must never exceed 15N/mm² of total cross-sections. The maximum tensile force should never exceed 1000N in total, although the above rule may lead to higher values for large cross-sections.

Marking

TITANEX 90°C n (X or G) s NEXANS CE «har» USEH07RN-F - factory n° Made in France Y Eca n°DoP



Lead free
Yes



Cable flexibility
Flexible



Chemical
resistance
Accidental



Water proof
Good



Max. conductor
temp. in service
90 °C



Oil resistance
Yes



Operating temp.
-25 - 55 °C



RoHS compliant
Yes

CHARACTERISTICS

Construction characteristics

Conductor material	Bare copper
Insulation	Special cross-linked elastomer
Outer sheath	Special cross-linked elastomer
Sheath colour	Black
Lead free	Yes
Conductor shape	Circular

Dimensional characteristics

Average sheath thickness	- mm
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Mechanical characteristics

Cable flexibility	Flexible
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Usage characteristics

Silicone free	Yes
Chemical resistance	Accidental
Water proof	Good
Length	- m
Max. conductor temperature in service	90 °C
Oil resistance	Yes
Operating temperature, range	-25 - 55 °C
RoHS compliant	Yes
Short-circuit max. conductor temperature	250 °C

SINGLE CORE

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	24	23.3	0.8	5.7	7.1	50
2.5	33	14.0	0.9	6.3	7.9	66
4	45	8.7	1.0	7.2	9.0	94
6	58	5.9	1.0	7.9	9.8	109
10	80	3.4	1.2	9.5	11.9	182
16	107	2.2	1.2	10.8	13.4	256
25	138	1.4	1.4	12.7	15.8	369
25	138	1.4	1.4	12.7	15.8	369
35	169	1.04	1.4	14.3	17.9	482
35	169	1.04	1.4	14.3	17.9	482
50	207	0.75	1.6	16.5	20.6	662
50	207	0.75	1.6	16.5	20.6	662
70	268	0.56	1.6	18.6	23.3	895
95	328	0.44	1.8	20.8	26.0	1144
120	382	0.36	1.8	22.8	28.6	1430
150	441	0.31	2.0	25.2	31.4	1740

Cross section [mm ²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
185	506	0.28	2.2	27.6	34.4	2160
240	599	0.23	2.4	30.6	38.3	2730
300	693	0.2	2.6	33.5	41.9	3480
400	825	0.18	2.8	37.4	46.8	4510
500	946	0.16	3.0	41.3	52.0	5700

TWO CORES

Cross section [mm ²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1	20	39.4	0.8	7.7	10.0	99
1.5	26	27.0	0.8	8.5	11.0	111
2.5	36	16.2	0.9	10.2	13.2	161
4	49	10.1	1.0	11.8	15.1	238
6	63	6.7	1.0	13.1	16.8	279
10	86	3.8	1.2	17.7	22.6	538
16	115	2.5	1.2	20.2	25.7	744
25	149	1.68	1.4	24.3	30.7	1074

THREE CORES

Cross section [mm ²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]	Green/ Yellow core
1	20	39.4	0.8	8.3	10.7	117	Yes
1.5	23	27.0	0.8	9.2	11.9	134	No
1.5	26	27.0	0.8	9.2	11.9	134	Yes
2.5	31	16.2	0.9	10.9	14.0	195	No
2.5	36	16.2	0.9	10.9	14.0	195	Yes
4	49	10.1	1.0	12.7	16.2	290	Yes
6	63	7.0	1.0	14.1	18.0	346	Yes
10	86	4.0	1.2	19.1	24.2	663	Yes
16	115	2.5	1.2	21.8	27.6	924	Yes
25	149	1.7	1.4	26.1	33.0	1345	Yes
35	185	1.21	1.4	29.3	37.1	1760	Yes
50	225	0.87	1.6	34.1	42.9	2390	Yes
70	289	0.64	1.6	38.4	48.3	3110	Yes
95	352	0.5	1.8	43.3	54.0	4170	Yes
120	410	0.4	1.8	47.4	60.0	5080	Yes
150	473	0.35	2.0	52.0	66.0	6220	Yes
185	542	0.3	2.2	57.0	72.0	7730	Yes

FOUR CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1	18	34.08	0.8	9.6	12.0	144
1.5	23	23.3	0.8	10.2	13.1	165
2.5	31	14.0	0.9	12.5	15.5	245
4	42	8.71	1.0	14.0	18.0	357
6	54	5.84	1.0	15.7	20.0	443
10	75	3.42	1.2	20.8	26.5	818
16	100	2.2	1.2	23.8	30.1	1150
25	127	1.44	1.4	28.9	36.6	1700
35	158	1.04	1.4	32.5	41.1	2180
50	192	0.75	1.6	37.7	47.5	3030
70	246	0.56	1.6	42.7	54.0	3990
95	298	0.44	1.8	48.4	61.0	5360
120	346	0.36	1.8	53.0	66.0	6500
150	395	0.31	2.0	58.0	73.0	7990
185	450	0.28	2.2	64.0	80.0	9910
240	538	0.23	2.4	72.0	91.0	13120

FIVE CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1	18	34.1	0.8	10.9	14.0	180
1.5	23	23.6	0.8	11.2	14.4	238
2.5	31	14.0	0.9	13.3	17.0	297
4	42	8.72	1.0	15.6	19.9	453
6	54	5.84	1.0	17.5	22.2	557
6	54	5.84	1.0	17.5	22.2	557
10	75	3.43	1.2	22.9	29.1	1001
16	100	2.2	1.2	26.4	33.3	1430
16	100	2.2	1.2	26.4	33.3	1430
16	100	2.2	1.2	26.4	33.3	1430
25	127	1.44	1.4	32.0	40.4	2096
35	158	1.04	1.4	35.6	45.1	2690
50	192	1.04	1.6	41.8	53.0	3840
70	246	0.56	1.6	47.5	60.0	4996
95	298	0.44	1.8	54.0	67.0	6640
150	395	0.31	2.0	66.0	83.0	9960

SEVEN CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	17	23.3	0.8	14.7	18.7	349
2.5	21	13.9	0.9	17.1	21.8	487

TWELVE CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	12	23.3	0.8	17.6	22.14	510
2.5	16	13.9	0.9	20.6	26.2	702
4	6	8.7	1.0	27.3	34.5	1025

EIGHTEEN CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	10	20.7	0.8	20.7	26.3	730
2.5	14	13.9	0.9	24.4	30.9	1018

TWENTY FOUR CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	9	-	0.8	30.7	24.3	1000
2.5	12	23.3	0.9	36.4	28.8	1406

THIRTY SIX CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Av. insul. thickness [mm]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	7	23.3	0.8	27.8	35.2	1325
2.5	9	13.9	0.9	33.2	41.8	1879

ADDITIONAL INFORMATIONS TITANEX

Core identification

(In accordance with european harmonization HD308 S2)

- 1x: black
- 2x: brown - blue
- 3x: brown - black - grey (brown - black - blue if the conductor cross-section is 1.5 or 2.5mm²)
- 3G: brown - blue - green/yellow
- 4x: brown - black - grey - blue
- 4G: brown - black - grey - green/yellow
- 5x: black cores with printed numbers
- 5G: blue - brown - black - grey - green/yellow
- 7 cores and above : black cores with printed numbers

Current rating capacities

The data are indicated for continuous duty operation and apply to:

- Maximum conductor temperature = 90 °C
- Nominal frequencies = 50 or 60 Hz
- One cable in free air (on perforated trays)
- Ambient temperature = 30 °C

Data recording from IEC 60364-5-52 or NF C 15-100

Voltage drop

The data are based on $\cos \varnothing = 0.8$

Minimum bending radius

- Static use: 3 x cable outer diameter
- Dynamic use: 6 to 8 x outer cable diameter.