

## 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



## 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



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

When pulling the cable, all conductors must be equally stressed. The tensile force must never exceed 15N/mm<sup>2</sup> 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

### Mechanical characteristics

Cable flexibility	Flexible
-------------------	----------

### Usage characteristics

Silicone free	Yes
Chemical resistance	Accidental
Water proof	Good
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 [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	24	23.3	7.1	5.7	50
2.5	33	14.0	7.9	6.3	66
4	45	8.7	9.0	7.2	94
6	58	5.9	9.8	7.9	109
10	80	3.4	11.9	9.5	182
16	107	2.2	13.4	10.8	256
25	138	1.4	15.8	12.7	369
35	169	1.04	17.9	14.3	482
50	207	0.75	20.6	16.5	662
70	268	0.56	23.3	18.6	895
95	328	0.44	26.0	20.8	1144
120	382	0.36	28.6	22.8	1430
150	441	0.31	31.4	25.2	1740
185	506	0.28	34.4	27.6	2160
240	599	0.23	38.3	30.6	2730
300	693	0.2	41.9	33.5	3480
400	825	0.18	46.8	37.4	4510
500	946	0.16	52.0	41.3	5700

## TWO CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	26	27.0	11.0	8.5	111
2.5	36	16.2	13.2	10.2	161
4	49	10.1	15.1	11.8	238
6	63	6.7	16.8	13.1	279
10	86	3.8	22.6	17.7	538
16	115	2.5	25.7	20.2	744
25	149	1.68	30.7	24.3	1074

## THREE CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]	Green/ Yellow core
1	20	39.4	10.7	8.3	117	Yes
1.5	23	27.0	11.9	9.2	134	No
1.5	26	27.0	11.9	9.2	134	Yes
2.5	31	16.2	14.0	10.9	195	No
2.5	36	16.2	14.0	10.9	195	Yes
4	49	10.1	16.2	12.7	290	Yes
6	63	7.0	18.0	14.1	346	Yes
10	86	4.0	24.2	19.1	663	Yes
16	115	2.5	27.6	21.8	924	Yes
25	149	1.7	33.0	26.1	1345	Yes
35	185	1.21	37.1	29.3	1760	Yes
50	225	0.87	42.9	34.1	2390	Yes
70	289	0.64	48.3	38.4	3110	Yes
95	352	0.5	54.0	43.3	4170	Yes

## FOUR CORES

Cross section [mm²]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1	18	34.08	12.0	9.6	144
1.5	23	23.3	13.1	10.2	165
2.5	31	14.0	15.5	12.5	245
4	42	8.71	18.0	14.0	357
6	54	5.84	20.0	15.7	443
10	75	3.42	26.5	20.8	818
16	100	2.2	30.1	23.8	1150
25	127	1.44	36.6	28.9	1700

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
35	158	1.04	41.1	32.5	2180
50	192	0.75	47.5	37.7	3030
70	246	0.56	54.0	42.7	3990
95	298	0.44	61.0	48.4	5360
120	346	0.36	66.0	53.0	6500
150	395	0.31	73.0	58.0	7990
240	538	0.23	91.0	72.0	13120

## FIVE CORES

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1	18	34.1	14.0	10.9	180
1.5	23	23.6	14.4	11.2	238
2.5	31	14.0	17.0	13.3	297
4	42	8.72	19.9	15.6	453
6	54	5.84	22.2	17.5	557
10	75	3.43	29.1	22.9	1001
16	100	2.2	33.3	26.4	1430
25	127	1.44	40.4	32.0	2096
35	158	1.04	45.1	35.6	2690
50	192	1.04	53.0	41.8	3840
70	246	0.56	60.0	47.5	4996
95	298	0.44	67.0	54.0	6640

## SEVEN CORES

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	17	23.3	18.7	14.7	349
2.5	21	13.9	21.8	17.1	487

## TWELVE CORES

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	12	23.3	22.14	17.6	510
2.5	16	13.9	26.2	20.6	702

## EIGHTEEN CORES

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Max. outer diam. [mm]	Min. outer diam. [mm]	Approx. weight [kg/km]
1.5	10	20.7	26.3	20.7	730
2.5	14	13.9	30.9	24.4	1018

## THIRTY SIX CORES

Cross section [mm <sup>2</sup> ]	Perm. current rating open air [A]	Voltage drop, single phase [V/A.km]	Min. outer diam. [mm]	Max. outer diam. [mm]	Approx. weight [kg/km]
1.5	7	23.3	27.8	35.2	1325
2.5	9	13.9	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 2.5mm<sup>2</sup>)
- 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  $\phi$  = 0.8

### Minimum bending radius

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