

Nexans



**No limit!**

# A single flexible cable...

**TITANEX® PREMIUM** meets your specific needs in many areas and industries: **entertainment, motion picture and broadcasting; power supply of submerged pumps; lighting of basins and swimming pools; refrigerating installations; power supply of winter sports equipment; temporary electrical installations for building sites; demanding industrial environments; wiring of machines.**

## More resistant, practical, powerful, and safer

In some extreme conditions, electric wiring equipment requires cables with special properties.

The TITANEX® PREMIUM range provides you with a cable that meets the most stringent requirements.

TITANEX® PREMIUM is the result of many research efforts and was specifically designed to allow the wiring of installations compliant with the CEI 60364 standard in terms of external influences, whether in water basins (AD8) or in very cold environments.

	TITANEX® PREMIUM	Application
Waterproofness	AD8	Lighting of basins and swimming pools Power supply of submerged pumps
Max. conductor temperature, fixed	+90 °C	All fixed applications
Max. outer temperature	+85 °C	Fixed power supply of heat-releasing equipment
Min. outer temperature	-50 °C	Refrigerating installations, power supply of winter sports equipment
Flame retardant	Zero halogen (LSOH)	Installations in public venues (libraries, theaters, conference halls) Equipment for event staging and broadcasting
Voltage rating	1 kV	All applications
Meter marking	YES	All applications
Flexibility	YES	All applications
Resistance to impacts	YES	Wiring of machines, temporary electrical installations for building sites, mobile power supply units
Oil resistance	YES	Wiring of machines, temporary electrical installations for building sites, mobile power supply units
Ease of implementation	YES	All applications



... for unlimited possibilities

**TITANEX® PREMIUM,**  
is a new generation of  
**H07RN-F flexible rubber**  
**cables, developed to release**  
**all your constraints.**

Its specific technology also  
encompasses the properties  
of **H07RN8-F, H07BN4-F and**  
**H07BB-F cables.**



### Resistance to submersion: AD8

- Can be permanently submersed under up to 10m of water.
- Can be used intensively in the presence of water, especially fresh water – up to 40°C.
- Tested for material behavior for 100 days under water at 50°C, as per HD 22.16 Annex B2 & B3.



### Zero halogen (LSOH)

- Fire retardant. In the event of a fire, the cable sheath ensures low smoke and acid gas emissions.
- Low-opacity smoke.
- Makes it easier for people to be evacuated and lowers the risk of equipment corrosion.



### High operating temperatures up to +90°C

- For fixed protected installations, enhanced maximum current rating equivalent to U-1000 R2V cables.
- Allows to use smaller cross-sections in some cases.
- For use in hot environments up to 85°C.
- High temperature ageing test to enhance durability.



### Low operating temperatures down to -50°C

- For use in extreme cold conditions.
- Down to -50°C (static) or -40°C (dynamic).
- Cold bending test and material elasticity test at -50°C as per EN 60811-1.4 standard.



### Operating voltage up to 1kV

- For fixed protected installations, permissible assigned voltage up to 0.6/1kV.
- Cable suited for explosive atmospheres (ATEX) under certain conditions.



### Metric numbered marking

- Allows to measure the exact cable length used and makes it easier to manage stocks and drum lengths.
- Generates time savings.

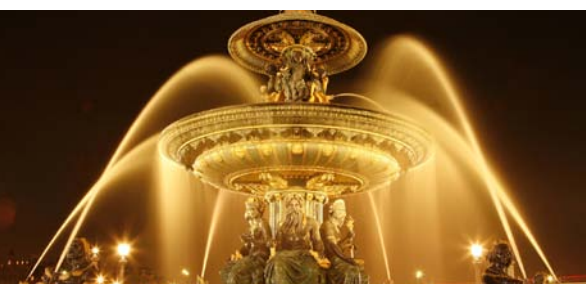
### And also

Flexibility, ease of implementation, resistance to impacts.

Good oil resistance for industrial use.

Oil immersion test (IRM 902) for 24 hours at 100°C as per EN 60811-2-1 standard.

Ozone resistance for both insulation and sheathing material  
as per EN 60811-2-1 art. 8 and HD22.2 art. 7.3.



# TITANEX® PREMIUM

450/750V up to 0.6/1kV

Max. conductor temperature in service:  
 (mobile installation) 60°C  
 (fixed protected installation) 90°C  
 (short-circuit 250°C)

## Use

TITANEX® PREMIUM is a new H07RN-F cable with a wide variety of properties. It is zero halogen and recommended for use in the case of fire risk. It also includes the properties of H07RN8-F cables for resistance to submersion (AD8), H07BN4-F cables for operating temperature (90°C), and H07BB-F cables for use in extreme cold conditions (down to -50°C).

## Classification for use

- Use up to 1000V for fixed installations or power supply of motors
- Resistance to submersion: AD8
- Presence of corrosive or polluting substances: AF3
- Resistance to impacts: AG2
- Zero halogen (LSOH)
- Flame retardant (NF C 32070 C2; IEC 60332-1)
- Frequent bending: good
- Oil resistance: good
- Low temperature use limit: -50°C (static), -40°C (dynamic)

## Recommendations for use

The insulation and sheathing combinations result in excellent flexibility and good robustness, therefore the product is recommended for use in power cables for port cranes, mobile machines on public building sites, professional portable tools, refrigerating installations, long-term heavy-duty applications in port areas, on ships, offshore platforms...  
 Further applications include all public-facing facilities as well as buildings containing electronic equipment, central control rooms, airports, railway stations, road tunnels, lighting equipment, etc.

## Description

### 1. Conductor

Flexible bare copper, class 5.

### 2. Insulation

Special crosslinked elastomer

### 3. Outer sheath

Crosslinked elastomer with high mechanical properties

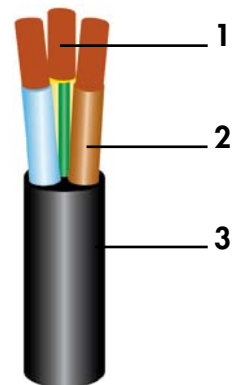
## Installation

This cable is designed for open air operation. In the event it should be buried, it should be mechanically protected in a duct or trough.

## Bending radius

Dynamic use: 6-8 times the outer cable diameter.

Static use: 3 times the outer cable diameter if less than or equal to 12mm, 4 times if the diameter is more than 12mm.



## Marking

USE<HAR>H07RN-F

nbr X (or G) S

X = without green/yellow

G = with green/yellow

S = cross-section in mm<sup>2</sup>

metric numbered marking

## Conductor marking/color code

1 conductor = black

2 conductors = brown + blue

3 conductors = green/yellow + blue + brown (G)

4 conductors = green/yellow + brown + black + grey

5 conductors = green/yellow + blue + brown + black + grey

>5 conductors = 1 green/yellow + all others black (numbered)

## Standards

**International**

IEC 60245-4 type 66

**Europe CENELEC**

HD 22-4

**National (France)**

NF C 32-102-4



- 50° + 85°C



EN 50267



AD8



Good  
AG2



Category C2  
IEC 60332-1



Very good



EN 50268-1  
and 252



EN 50267-2-2  
IEC 60754-2



EN 50267-2-25  
IEC 60754-2

## Technical specifications: TITANEX® PREMIUM

Number of conductors (mm <sup>2</sup> )	Mobile I max (A)	Fixed protected I max (A)	$\Delta U (\cos \varphi 0,8)$ V/A.km	Max. diameter	Weight (kg/km)
1 x 1.5	19.5	24	23.3	7.1	50
1 x 2.5	27	33	14.0	7.9	66
1 x 4	36	45	8.7	9.0	94
1 x 6	48	58	5.9	9.8	109
1 x 10	63	80	3.4	11.9	182
1 x 16	85	107	2.2	13.4	256
1 x 25	110	135	1.4	15.8	369
1 x 35	137	169	1.04	17.9	482
1 x 50	167	207	0.75	20.6	662
1 x 70	216	268	0.56	23.3	895
1 x 95	264	328	0.44	26.0	1160
1 x 120	308	383	0.36	28.6	1430
1 x 150	356	444	0.31	31.4	1740
1 x 185	409	510	0.28	34.4	2160
1 x 240	485	607	0.23	38.3	2730
1 x 300	561	703	0.20	41.9	3480
1 x 400	656	823	0.18	46.8	4510
2 x 1.5	22	26	27.0	11.0	111
2 x 2.5	30	36	16.2	13.1	161
2 x 4	40	49	10.1	15.1	238
2 x 6	51	63	6.7	16.8	279
2 x 10	70	86	3.8	22.6	538
2 x 16	94	115	2.5	25.7	744
2 x 25	119	149	1.68	30.7	1074
3 G 1.5	22	26	27.0	11.9	134
3 G 2.5	30	36	16.2	14.0	195
3 G 4	40	49	10.1	16.2	290
3 G 6	51	63	7.0	18.0	346
3 G 10	70	86	4.0	24.2	663
3 G 16	94	115	2.5	27.6	924
3 G 25	119	149	1.7	33.0	1345
3 G 35	148	185	1.21	37.1	1760
3 G 50	180	225	0.87	42.9	2390
3 G 70	232	289	0.64	48.3	3110
3 G 95	282	352	0.50	54.0	4170

Permissible current rating is measured for an ambient temperature of 30°C, in open air and for continuous duty operation, as per CEI 60364-5-52 standard. For use in fixed protected installations, this should be seen as the maximum current rating (as per HD 22.12 standard; cable at 90°C).

Note : For cables with 1, 4 or 5 conductors, current rating is measured for installations with 3 loaded conductors.

For cables with 2 or 3 conductors, current rating is measured for installations with 2 loaded conductors.

For other temperatures, please refer to correction factors.

## Correction for ambient temperature: mobile installations

Ambient temperature (°C)	10	15	20	25	30	35	40	45	50	55
Correction factor	1.29	1.22	1.15	1.07	1	0.93	0.82	0.71	0.58	0.41

## Technical specifications: TITANEX® PREMIUM

Number of conductors (mm <sup>2</sup> )	Mobile I max (A)	Fixed protected I max (A)	$\Delta U (\cos \varphi 0,8)$ V/A.km	Max. diameter	Weight (kg/km)
4 G 1.5	18.5	23	23.3	13.1	165
4 G 2.5	25	32	14.0	15.5	245
4 G 4	34	42	8.72	18.0	357
4 G 6	43	54	5.84	20.0	443
4 G 10	60	75	3.42	26.5	818
4 G 16	80	100	2.20	30.1	1150
4 G 25	101	127	1.44	36.6	1700
4 G 35	126	158	1.04	41.1	2180
4 G 50	153	192	0.75	47.5	3030
4 G 70	196	246	0.56	54.0	3990
4 G 95	238	298	0.44	61.0	5360
4 G 120	276	346	0.36	66.0	6500
4 G 150	319	399	0.31	73.0	7990
5 G 1.5	18.5	23	23.3	14.4	238
5 G 2.5	25	32	14.0	17.0	297
5 G 4	34	42	8.72	19.9	453
5 G 6	43	54	5.84	22.2	557
5 G 10	60	75	3.43	29.1	1001
5 G 16	80	100	2.20	33.3	1430
5 G 25	101	127	1.44	40.4	2096
5 G 35	126	158	1.04	45.1	2690
5 G 50	153	192	0.75	53.0	3840
5 G 70	196	246	0.56	60.0	4996
5 G 95	238	298	0.44	67.0	6465
7 G 1.5	14	18	23.3	18.7	349
7 G 2.5	16	19	14.0	22.0	487
12 G 1.5	9	11	23.3	22.4	510
12 G 2.5	11	15	14.0	26.2	702
18 G 1.5	8	10	23.3	26.3	730
18 G 2.5	10	12	14.0	30.9	1018
36 G 1.5	6	7	23.3	35.2	1325
36 G 2.5	8	10	14.0	39.1	1879

Permissible current rating is measured for an ambient temperature of 30°C, in open air and for continuous duty operation, as per CEI 60364-5-52 standard. For use in fixed protected installations, this should be seen as the maximum current rating (as per HD 22. 12 standard; cable at 90°C).

Note : For cables with 1, 4 or 5 conductors, current rating is measured for installations with 3 loaded conductors.

For cables with 2 or 3 conductors, current rating is measured for installations with 2 loaded conductors.

For other temperatures, please refer to correction factors.

## Correction for ambient temperature: fixed protected installations

Ambient temperature (°C)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
Correction factor	1.22	1.19	1.15	1.12	1.08	1.04	1	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29



Global expert in cables and cabling systems

With energy as the basis of its development, Nexans, the world-wide leader in the cable industry, offers an extensive range of cables and cabling systems. The Group is a global player in the infrastructure, industry, building and Local Area Network markets. Nexans addresses a series of market segments: from energy, transport and telecom networks to shipbuilding, oil and gas, nuclear power, automotives, electronics, aeronautics, material handling and automation.

Nexans is a responsible industrial company that regards sustainable development as integral to its global and operational strategy. Continuous innovation in products, solutions and services, employee development and engagement, and the introduction of safe industrial processes with limited environmental impact are among the key initiatives that place Nexans at the core of a sustainable future.

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Nexans France - 4-10, Rue Mozart - 92587 Clichy Cedex - France  
Tel: +33 (0) 1 55 62 72 00 - Fax: +33 (0) 1 55 62 78 00

[www.nexans.fr](http://www.nexans.fr) - [titanexpremium.fr@nexans.com](mailto:titanexpremium.fr@nexans.com)