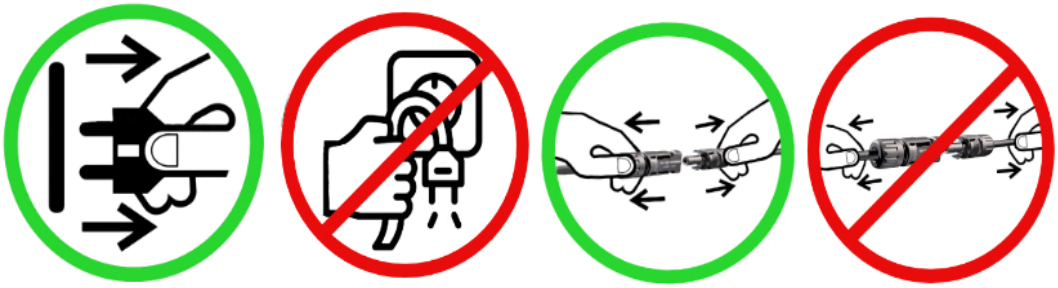
ENG

Safety Information

List of safety warnings concerning extension cords based on the requirements of Regulation (EU) 2023/988 on general product safety (GPSR):

HAZARD	PROBABILITY	CONSEQUENCE	RISK LEVEL	MITIGATION MEASURES
Electric shock	medium	severe injuries	critical	Markings, manual, safety tests
Fire (overload)	medium	fire, damage	critical	Power limitation, prohibition of connection, pictograms
Mechanical damage	high	cable damage	serious	Reinforced insulation, safety instructions
Use by children	low	injuries	moderate	Prohibition for children, pictograms
Improper disposal	medium	environmental damage	moderate	Information on electronic waste



WARNING – CAUTION

Failure by the user to comply with the following safety information and operating instructions, attached documentation, etc., results in the expiration of any possibility of making claims under warranty, statutory warranty and/or liability against both the manufacturer and the seller.

The user is obliged to inspect the external condition of the cable before each use and to ensure that its sheath is undamaged and that the cable maintains a regular, round shape along its entire length, with no ovality, flattening, thickening, bulging or protruding elements from the insulation or fittings; any irregularity found means the product must not be used and should be returned to the seller or manufacturer.

Improper connection and use of damaged extension cords and electrical cables may lead to fire, serious bodily injury, or even death by electric shock.

Before use, the operating manual and safety information must be read thoroughly.

1. Before installing/using the extension cord, read this document carefully and in full.
2. The provided safety information applies throughout the entire period of use of the Hilark extension cord.
3. The extension cord may only be used in accordance with its intended purpose!
4. IMPROPER USE THREATENS:
   • the user’s health;
   • the user’s life;
   • the lives of other people using the electrical device and all living organisms in the vicinity.

4.1. By using the Hilark extension cord improperly, the user also risks serious material damage, e.g., caused by fire.
4.2. Improper use of the extension cord entails personal liability for health damage and material losses.

5. RISK OF ELECTRIC SHOCK:
   • Ensure the extension cord is dry and used in a dry environment.
   • Do not touch the extension cord with wet hands.
   • Check that the cable insulation is not damaged and that other elements of the extension cord are not damaged.
   • BEFORE CONNECTING THE EXTENSION CORD, CHECK: the technical condition of the extension cord, the state of insulation (it must not be damaged), the type of power supply network and the resulting connection conditions, the protection degree, and national regulations and provisions.
   • Do not connect the extension cord to a faulty installation or faulty devices.
   • Do not overload the extension cord by connecting too many devices.
   • Always disconnect the extension cord from the socket before cleaning or repair.
   • Check that the extension cord is used in a place where there is no risk of mechanical damage: protect against impacts, trampling, driving over, crushing, and other damage.

6. RISK OF FIRE:
   • Do not cover the extension cord while in use to prevent overheating.
   • Do not use damaged extension cords – they may cause a short circuit.
   • Use extension cords with appropriate power capacity for connected devices.
   • Do not place extension cords in areas exposed to high temperatures.

   • Do not connect high-power appliances to the extension cord: ovens, cookers, electric kettles, heaters, fan heaters, washing machines, dishwashers or refrigerators – these appliances must be powered directly from a wall socket. The maximum load of the extension cord is calculated using the formula: W = 230 V × A (where A is the current in amperes indicated on the product marking; example: 16 A → max. 3,680 W).

7. TO ELIMINATE THE POSSIBILITY OF HEALTH DAMAGE AND MATERIAL LOSSES, THE FOLLOWING POINTS MUST BE ENSURED:
   • use the extension cord in accordance with its purpose and protection degree.
   • strictly check the technical condition of the extension cord before use – never use a damaged extension cord.
   • connect devices compliant with regulations and manufacturer's information.
   • check the rated power of the device given in watts (W) before connecting it to the extension cord – do not connect devices whose total rated power exceeds that indicated on the extension cord marking.
   • before connecting the extension cord to the network and/or connecting a device to the extension cord, make sure the device is switched off.
   • during use, the extension cord cable must be fully unrolled and must not be covered by any material, and no objects may be placed on it.
   • do not push, bend, or modify the metal pins in the extension cord, sockets, or plugs, or any of its other elements. PROHIBITED: attempts to open, repair, or modify the device independently.
   • protect the extension cord from mechanical damage: do not drive over, move, step on, or strike it with any tools.
   • prevent improper use (e.g.: inserting foreign objects, trying to insert incompatible plugs and sockets, jamming, disconnecting without unlocking, overloading the extension cord, using the extension cord coiled, etc.).
   • use and store extension cords only under the specified environmental conditions.
   • do not connect manipulated devices to the extension cord.
   • do not use damaged devices.
   • do not use the extension cord when covered.
   • do not connect devices requiring grounding to extension cords without grounding.
   • do not connect the extension cord to another extension cord.
   • disconnect from the power supply after each use – by holding the plug and removing it from the socket. PROHIBITED: disconnecting the extension cord by pulling the cable.

   7a. INSPECTION BEFORE EACH USE: • Before each use, inspect the cable, plug and sockets for cracks, abrasions, damage and other irregularities; a damaged product must not be used. • Ensure that the cable has a regular, round shape and that there is no flattening, ovality, thickening, bulging or protruding elements from the insulation or fittings. • Any irregularity found should be grounds for immediately discontinuing use of the product and returning it or making a complaint. • Do not use the extension cord for purposes other than those intended and do not exceed the maximum load indicated on the product marking. • During use, the cable must be fully uncoiled; it must not be covered or have objects placed on it, as this increases the risk of overheating. • Avoid contact of the cable with water and do not carry out any repairs, modifications or opening of the product yourself.

8. CHILD PROTECTION – The extension cord is not a toy – do not allow children or animals to come near it. Persons, especially children, who cannot assess possible risks or can only do so under certain conditions, as well as animals, may suffer bodily injuries.

9. OUTDOOR USE: use only extension cords marked for outdoor use; protect the extension cord from moisture and direct weather exposure; extension cords without the "outdoor" marking are for indoor use only.
10. TRIPPING HAZARD: ensure the extension cord is not lying in a place where it can be tripped over. Use special cable covers to protect them from damage and increase visibility. The cable should be protected from mechanical damage (especially on roads, passages, and communication routes). Systemic protections against damage (ramps and cable protectors) should be used.
11. STORAGE: store extension cords in a dry and safe place, away from heat sources and moisture. Regularly check the condition of extension cords and do not use damaged ones. Always fully unroll the extension cord before each use.
12. Warranty and post-warranty service is provided by the manufacturer.
13. ENVIRONMENTAL PROTECTION: used extension cords must not be disposed of with ordinary waste. The user is obliged to deliver the used equipment to a designated collection point for proper processing. Everyone has an impact on the direct protection of the natural environment; therefore, together with our customers, we protect our planet and care for sustainable development.

WARNING:
mechanical, electrical, and technical damage are not covered by the manufacturer's warranty.

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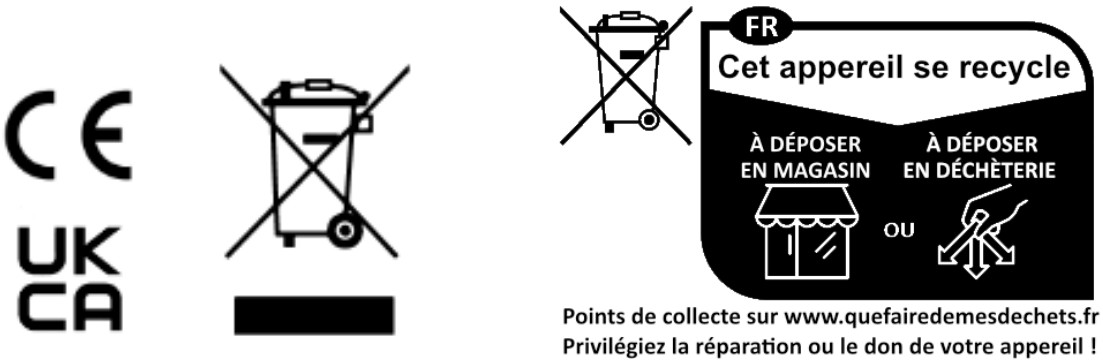

IP PROTECTION CLASS IP_ _
The IP protection classes, i.e. International Protection Rating, are an international standard that defines the degree of protection of electrical devices against the ingress of solid objects and water.
First digit: Protection against solid objects
Second digit: Protection against water

FIRST DIGIT – degree of protection against access to hazardous solid objects	**SECOND DIGIT – defines protection against water**
2 – protection against access with fingers into the enclosure, and against solid objects of 2.5 mm diameter and larger	0 – no protection
4 – protection against access with wire to hazardous parts and against solid objects of 1 mm diameter and larger	4 – protection against splashing water from any direction
5 – protection against dust and access with wire	7 – protection against temporary immersion in water
6 – complete protection against dust ingress and against access to hazardous parts with wire	8 – protection against continuous immersion in water in accordance with manufacturer's specifications

Understanding the IP classification allows for making informed decisions when purchasing equipment that will meet specific needs and usage conditions.

Class IP20: Protection against solid objects, no protection against water – provides basic protection against solid objects larger than 12.5 mm in diameter but offers no protection against water. For devices used in dry indoor environments where contact with water and moisture is not expected.
Examples:
• Office equipment, household appliances
• For use indoors in dry rooms

Class IP44: Protection against solid objects and splashing water – protection against solid objects larger than 1 mm in diameter and against splashing water from any direction. For use in places where accidental splashing may occur, such as:
• Bathrooms (e.g., bathroom lamps that must withstand moisture but are not directly immersed in water), kitchens, garden, warehouses, production halls, factories, workshops
• For indoor and outdoor use in dry or humid conditions (not during rainfall)

Class IP54: Protection against dust and splashing water – provides protection against dust and splashing water from any direction, making it more advanced than IP44. It is an ideal choice for devices that must operate in environments with high levels of dust, often used in industry and with power tools in production facilities.
Examples:
• Workshops, factories, garden, production halls, warehouses
• For indoor and outdoor use in dry or humid conditions (not during rainfall)

Class IP67: Full dust-tightness and protection against temporary immersion in water – offers full dust protection and protection against the effects of short-term immersion in water. It is an ideal solution for devices that may be accidentally submerged, such as:
• Workshops, factories, garden, production halls, shipyards, garages
• For outdoor use (only for accidental contact with water – not intended for continuous water exposure)

Class IP68: Full dust-tightness and protection against continuous immersion in water – the highest protection level offered by IP68, ensuring complete dust-tightness and protection against continuous immersion in water to a depth greater than 1 meter for a specified time (up to 30 minutes). Devices with this marking are ideal for use in extreme conditions, such as:
• Shipyards, ports, extension cords for equipment in contact with water, e.g., pool cleaning
• Permanently installed electrical devices outdoors

TYPES OF CABLES IN HILARK EXTENSION CORDS:

NSHTOU-J: crane cable, drum cable compliant with DIN VDE 0250 part 814.; temperature range – flexible from -35°C to 70°C, stationary from -40°C to 70°C; maximum conductor temperature: during operation 60°C; during short circuit 200°C. Rated voltage Uo/U 0.6/1 kV; maximum permissible operating voltage for AC Uo/U 0.7/1.2 kV; for DC Uo/U 0.9/1.8 kV; test voltage 2500V; insulation resistance min. 10 MOhm x km; minimum bending radius 7.5 x ⌀ cable. Radiation resistance up to $20x10^6$ cJ/kg (up to 20 Mrad). Construction: tinned conductor, stranded according to DIN VDE 0295 class 5, BS 6360 class 5, UEC 60228 class 5, conductor insulation made of GI 1 rubber according to DIN VDE 0207 part 20; conductor identification according to DIN VDE 0293, up to 5 conductors colored; conductors twisted around the supporting element with a pitch of 8x⌀. **TEXTILE TAPE BRAID:** textile tape; textile braid in the inner sheath as a reinforcing element and protection against twisting of the cable. **OUTER SHEATH:** neoprene 5GM2 according to DIN VDE 0207 part 21. **PROPERTIES:** designed and manufactured for continuous motion, repeated winding and unwinding; permissible winding speed max. 120 m/min; polychloroprene-rubber (neoprene) outer sheath, highly resistant to low temperatures; resistant to ozone, radiation, oils, acids, fats, gasoline, solvents, and chemicals. During operation, maximum tensile load should not exceed 15N/mm² of conductor cross-section; acceleration not greater than 0.4 m/s²; during operation always leave 1–2 turns on the drum. For heavy mechanical loads, especially with high accelerations and sudden tension, permissible stresses must be determined. **Tests:** behavior during fire; tested according to DIN VDE 0482-332-1-2, DIN EN 60332-2-1, IEC 60332-1 (equivalent to DIN VDE 0472 part 804 method B); Oil resistance according to DIN VDE 0407-811-404, DIN EN 60811-404. **APPLICATION:** NSHTOU is used wherever high tensile strength is required, especially in systems requiring constant, repeated winding and unwinding from the drum. For use in construction, mines, cranes, conveyors, hoists. Thanks to its excellent weather resistance, it can be used as a flexible cable in hoisting equipment. Suitable for outdoor installations as well as in dry, damp, and wet rooms and in open air. CE = product complies with the Low Voltage Directive 2014/35/EU [1]

H07BQ-F: Standards PN-EN 50525-2-21. Cable insulated with heat-resistant rubber (EPR), outer sheath made of TMPU polyurethane; conductors 100% copper, multi-wire class 5 according to PN-EN-60228. Operating temperature: -50°C / 90°C. Minimum bending radius (D – outer cable diameter in mm):
D < 8 → 3D fixed, 4D portable;
8 < D < 12 → 3D fixed, 4D portable;
12 < D < 20 → 3D fixed, 5D portable;
D > 20 → 4D fixed, 6D portable.
With permissible mechanical load: 6D / 6D / 6D / 8D.
Application: power cables for fixed installation as well as for portable and mobile devices, used wherever exposure to mechanical damage, bending, abrasion, dragging, pulling occurs. Suitable for outdoor areas and in dry, damp, or wet rooms. Usable in cold stores, as installation cables, and connections for agricultural and industrial equipment. Used on construction sites, production plants, shipyards, farms. Rated voltage: 450/750 V [2]

H07RN-F OnPd: Standards PN-EN 50525-2-21; Flame spread resistance PN-EN 60332-1-2. Cable insulated with ethylene-propylene rubber (EPR), outer sheath made of chloroprene rubber resistant to oil and flame propagation; conductors 100% copper, multi-wire class 5 according to PN-EN 60228:2007. Permissible conductor temperatures: during operation 60°C; ambient at installation -25°C; during short circuit 200°C. **Application:** may be used in permanent protected installations for elevator motor connections. Suitable for medium mechanical load equipment operating in moderate climates. Suitable for

high power consumption devices in households and industry; large heating systems, hotplates, portable lamps, electrical tools such as drills, circular saws, as well as household tools. Rated voltage: 450/750 V [3]

H05RR-F OW: Standards PN-EN 50525-2-21. Cable insulated with EPR rubber; outer sheath of EPR rubber; conductors 100% copper, multi-wire class 5 according to PN-EN 60228:2007. Permissible conductor temperatures: during operation max. 60°C; ambient at installation -25°C; during short circuit 200°C. **Application:** for general use in households, kitchens, offices, and for supplying devices where cables are exposed to low mechanical stress (e.g., vacuum cleaners, kitchen appliances, toasters). Rated voltage: 300/500 V [4]

H05VV-F OWY: Standards PN-EN 50525-1:2011, EKNZ 001-11. Cable insulated with PVC; outer sheath made of PVC; conductors 100% copper, multi-wire, flexible, class 5 according to PN-HD 60228:2007. Permissible operating temperature: surface of cable max. 70°C; during short circuit max. 150°C; transport, installation, handling min. -5°C; minimum bending radius 6 x D (outer diameter). **Application:** suitable for surface-mounted permanent installation (recommended indoors), for self-assembly of extension cords, for household devices under medium mechanical load, including in damp and wet rooms. For domestic/workshop/office devices in medium conditions where risk of mechanical damage is low and no exposure to hot surfaces or radiation. Rated voltage: 300/300 V [5]

H1Z2Z2-K: Cable with insulation and sheath of special cross-linked halogen-free material in accordance with PN-EN 50618, EN 50396, EN 60811, temperature range -40°C to +120°C, UV, ozone, ammonia, and chemical resistant; conductors 100% copper tinned multi-wire class 5 according to PN-EN 60228. Permissible operating temperature: conductor -40°C to 120°C; ambient -40°C to 90°C; installation min. -25°C; during short circuit (5s) conductor 250°C. **Application:** designed for photovoltaic systems, indoors and outdoors, for high mechanical requirements and extreme weather conditions; for fixed installation and free movement; expected service life 25 years. Used in PV installations, between photovoltaic modules, module strings, and inverter connections. AC rated voltage Uo/U 1000/1000 V; DC rated voltage 1500 V; max. DC 1800 V; test voltage AC 6.5 kV, DC 15 kV [6]

H03VV-F OMY: Cable insulated with PVC and sheathed with PVC; conductors 100% copper, multi-wire, flexible, class 5 according to PN-HD 60228:2007. Permissible conductor temperatures: during operation max. 70°C; ambient at installation min. -5°C; during short circuit max. 150°C. **Application:** for household, kitchen, office use; for light-duty use without significant mechanical stress, for light portable devices such as radios, table and floor lamps, office machines. Rated voltage: 300/500 V; standards: PN-EN 50525-1:2011, EKNZ 001-11 [7]

SELECTION OF EXTENSION CORD:

1. When choosing the type of extension cord, consider:
   • cable operating conditions
   • method and place of use
   • protection degree
   • rated current
   • rated voltage
   • maximum load

2. The extension cord must be used in a way that does not deteriorate its properties; therefore, pay special attention that:
   2.1 The following factors affect cable operating conditions:

- ambient temperature
- temperature differences
- exposure to mechanical stress (pressure, tension, vibration, pulling)
- protect the extension cord from UV radiation and heat effects

2.2 The method of unrolling and pulling the cable must correspond to the material of the sheath to avoid mechanical damage.
2.3 Consider protection of the extension cord against chemicals.

3. Fire safety precautions must be taken during use of the extension cord to limit fire spread in case of ignition.

4. During use, the minimum bending radius according to cable specification must be maintained.

The manufacturer is responsible for placing on the market a product that meets safety requirements; however, safe use requires a visual inspection before each use. The manufacturer and seller accept no liability for damage resulting from incorrect use of the product or for damage resulting from continued use of the product after visible damage, deformation or other irregularities detectable during a simple visual inspection by the user have been identified.

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SOURCES

[1] NSHTOU datasheet – cable reel wires p.260 Helukabel
[2] Elektrokabel product catalog / Rubber insulated and sheathed cables - H07BQ-F (yellow)
[3] Elektrokabel product catalog / Rubber insulated and sheathed cables - H07RN-F (yellow) OnPd
[4] Elektrokabel product catalog / Rubber insulated and sheathed cables - H05RR-F (yellow) OW
[5] Elektrokabel product catalog / Cables for portable and mobile equipment - OWY H05VV-F
[6] Power and telecom cables - SOLPAR H1Z2Z2-K
[7] Elektrokabel product catalog / Cables for portable and mobile equipment - OMY H03VV-F (yellow)

[8] Komenda Główna Państwowej Straży Pożarnej, "Bezpieczne obchodzenie się z prądem", gov.pl/web/kgpsp/bezpieczne-obchodzenie-sie-z-pradem

20/04/2026 / no. 3