

Composite solutions

- · better for the environment
- · safer for people
- · more beneficial for business

Find out more

www.nct.global

Be an inspiration

Ladies and Gentlemen,

We are experts in the field of composite technologies. Based on expert knowledge, research and our experience, we know that high quality composite poles are an excellent alternative to traditional concrete or aluminium structures.

Our products are manufactured under **strictly controlled conditions**. They meet the most **stringent durability criteria and guarantee safe use**. This is confirmed by prestigious standards and certificates.

We enjoy the trust of Polish and international customers, especially in strategic industries that do not compromise on quality. These include: road construction, railways, energy, telecommunications, local authorities and the army.

We are innovative, so we are constantly finding new applications for composite solutions.

We are inspired by the needs of our customers and the development of new technologies. But we also have an ambition to inspire others: to build a safer world together.



I invite you to cooperation

Rafał Bednarczyk

President of the Management Board

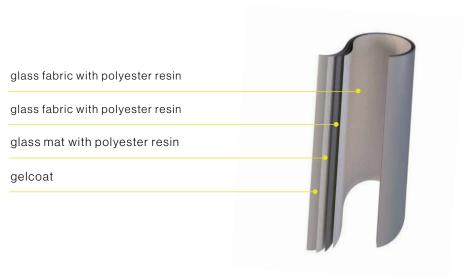
of NCT S.A.

Confirmed quality

Composite. The power of synergy

NCT solutions are made of high quality polymer composite, consisting of polyester resins, fabrics and glass mats, surrounded by a layer of gelcoat. The synergy of the properties of the materials used allows us to obtain an exceptionally light product with high structural strength parameters, in compliance with the requirements of quality and safety standards and prestigious certificates.





Solutions inspired by your needs

Safety

Composite road and energy poles absorb impact energy in the event of a road collision. The composite does not conduct electricity.

Durability

The composite does not corrode. It is flame-retardant and resistant to mechanical damage, road and sea salt and animal waste.

Ecology

The composite material is recyclable and has low CO2 emissions. Illuminated poles help to reduce light pollution.

Economy

Lightweight construction, easy transport and poles installation reduce investment costs. Friendly use of composite means real savings

Innovation

The composite material allows the installation of receivers and transmitters inside and outside the poles (the material has a minimal degree of wave interference).

What makes us different. Certifications, approvals, awards



Certificate of Conformity (CE) with European Standard PN-EN 40-7:2004 Requirements for fibre reinforced polymer composite lighting columns

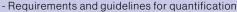
Certificate of Compliance with the PN-EN 12767:2019 standard Passive safety of support structures for road equipment

- Requirements and test methods

Certificate of conformity with PN-EN 60529, PN-EN 62262 and PN-EN 50102, standards, degree of protection against penetration of external factors IP44, degree of protection against external mechanical impacts IK10

Certificate of Compliance with the PN-EN ISO 14067

standard - Greenhouse gases - Carbon footprint of products





Approval for the use of composite lighting poles for Polish railways PKP PLK S.A.

Recommendation of the Telecommunication Builders Association for NCT composite telecommunication poles

Factory Production Control (FPC) recommendation for composite power poles

NATO National Economy Entity Code assigned by the Military Centre for Standardization, Quality and Codification

A document confirming the credibility of NCT for the purposes of implementing contracts for NSPA

A positive opinion for composite poles from General Directorate for National Roads and Motorways (GDDKiA)

Positive opinion regarding composite lighting poles of the Railway Institute in Warsaw



Smartpole Charger, an electric car charging station in a lighting pole

- laureate of the 10th national Fleet Derby competition



Quality management svstems

ISO 9001:2015

www.tuv.com ID 9000020954









Towards Vision Zero

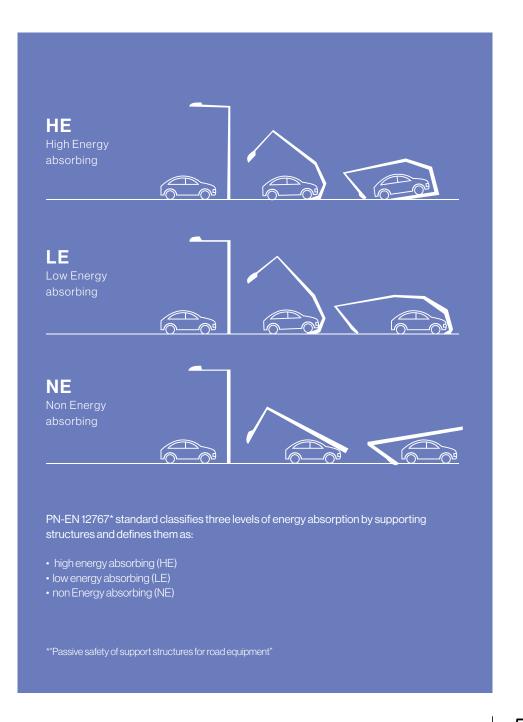
The Vision Zero programme, which originated in Sweden, includes activities aimed at improving road safety. The aim is to reduce the number of road deaths to zero.

This is the approach we have in mind.

We also participate in the work of the Road Safety Team of the Polish Chamber of the Road Engineering Industry and the Polish Committee for Standardisation, which develops standards to improve road safety and comfort.

NCT's products meet the highest passive safety standards and contribute to:

- reducing the number of accidents with road infrastructure;
- reducing the consequences of collisions between vehicles and poles;
- saving on road investment budgets (no need to install protective barriers to cover poles that do not meet passive safety requirements).





Smart City. Live better

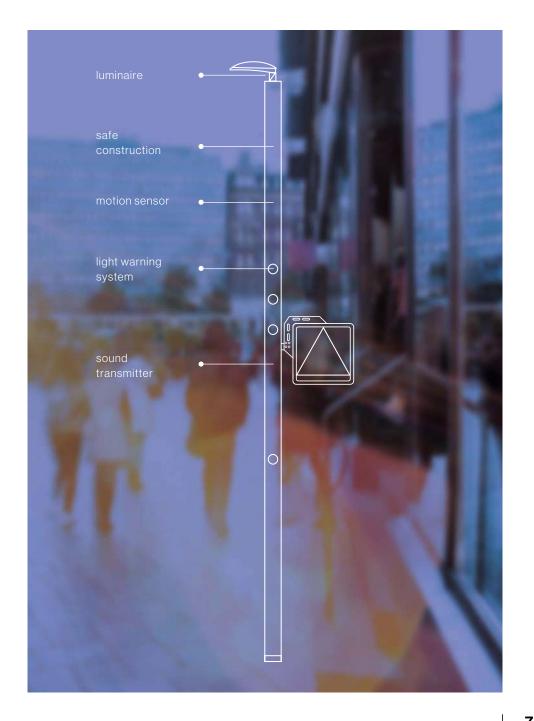
Modern cities are constantly looking for solutions to improve the quality of life of their inhabitants in terms of safety, comfort and respect for the natural environment. These are the directions in which NCT also works.

Composite solutions are characterised by an innovative approach, openness to user needs and improvement of products and their properties. As a result, composite structures, enhanced with technological innovations, take on completely new functions:

Smartpole Crossing equipped with sound transmitters, light warning systems and motion sensors makes traffic smoother and improves concentration of pedestrians and drivers, supports safety within intelligent pedestrian crossings.

Smartpole Charger is a lighting pole with a charging station. It is a response to the dynamic development of electromobility and the involvement of cities in providing EV drivers with access to charging infrastructure.

Designpole is NCT's contribution to the growing sensitivity to the order and aesthetics of urban spaces. It is aimed at cities that want to reduce their light pollution.



Find the product you need

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Composite hop trellises

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Effective lightning protection

Flagpoles
Reach higher
with NCT

OTHER PRODUCTS

Pultrusion technology

65 Herpetological fences

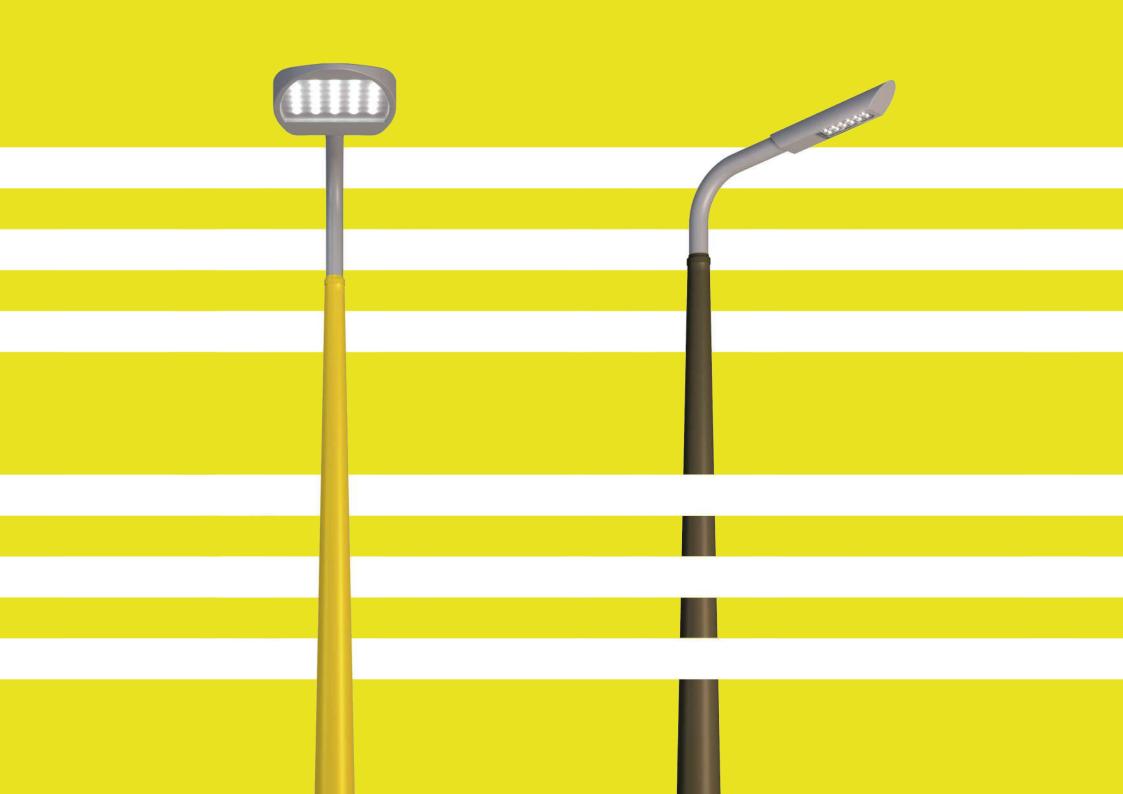
66 Dielectric post system

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70 Additional accessories

	Construction	Road construction	Energetics	Railways	Waterworks	Gas stations	Pedestrian crossings	Playgrounds, recreational facilities	Parks, squares, monuments	Commercial facilities/ shopping malls	HoReCa (hotels, restaurants, gastronomy)	Monitoring	Telecommunications/Fiber optic networks	Industrial factories	Local government, administration	Hop plantations	Areas difficult to access	Private properties	Parking lots
Passivepole																			
Basicpole				•	•	•		•		•	•								
Easypole					•												•		
Designpole								•	•	•	•								
Smartpole Crossing							•												
Electric car charging stations (Smartpole Charger)		•				•				•	•								•
Telecommunication poles	•											•	•						
Power poles	•		•																
Lightning protection masts	•																	•	
Flagpoles								•		•	•							•	
Herpetological road fences																			
Railway fog bollard				•															
Dielectric post systems												•	•						
Pultrusion structures	•																		
Hop trellises																			





Lighting poles

- Passivepole
- Basicpole
- Easypole



Rybnik Raciborska street Photo: K. Matuszyński

Passivepole

When safety is a priority

Composite lighting pole with high durability parameters. The lightweight structure supports the safety of road users more effectively than traditional solutions.



The product complies with the standard **EN 40-7:2002**

The product meets all categories specified in the **PN-EN 12767:2019** standard (passive safety)

APPLICATION:



- high strength parameters: resistance to seismic shocks, vibrations and high wind pressure
- poles tested in all speed classes and passive safety categories according to PN-EN 12767:2019
- light and durable structure with high resistance to vandalism
- low transport and installation costs due to the low weight of the product (large loading capacity)
- safe construction: does not conduct electricity, has no scrap value
- resistant to pollution and weather conditions (including road salt and animal waste)
- exceptional durability: up to 40-50 years of use
- environmentally friendly 100% recyclable, lower CO2 emissions than standard solutions
- modern design

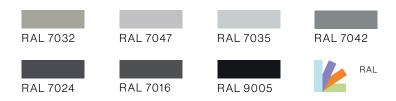
Passivepole

A safe lighting pole with high durability parameters

Technical properties:

- pole height: from 3 to 12 [m] (above the ground)
- bottom diameter of the poles: from 100 to 250 [mm]
- installation type: direct buried or anchor base
- pole weight: from 10 to 90 [kg]
- possibility to produce a pole with the required technical parameters
- upper diameter of the pole: 60 [mm] (aluminium sleeve 130 [mm] long)
- inspection door at a height of 600 [mm] from the ground with dimensions of 400 x 85 [mm] (dimensions can be modified)
- IP 44. IK10

Standard colours:



Possibility to produce poles in any RAL colour



The characteristics of Passivepole composite poles perfectly **reduce the effects of a collision** between a vehicle and a pole, ensuring the safety of the driver and passengers. When a car collides with a pole, the composite structure absorbs the energy of the collision while maintaining the best values of the ASI and THIV passive safety indices.

The tested Passivepole is the only one of its kind in Europe that, in the event of a collision at a speed of 50 km/h, falls safely in front of the vehicle without disengaging from its installation position (NS) and without disturbing the vehicle interior.

Marking of passive safety classes of lighting poles according to the PN-EN 12767:2019 standard

1. Impact speed: 50km/h, 70km/h, 100km/h (vehicle speed during the crash test)

2. Categories of energy absorption during a collision:

NE – poles that do not absorb energy

LE – poles with low energy absorption

HE – poles with a high level of energy absorption

3. Occupant safety level:

A, B, C, D, E (in the 2008 standard they were marked with numbers 1,2,3,4).

THIV parameters tested during the collision (theoretical head impact velocity) and ASI (acceleration severity index) determine the level of passenger safety

4. Type of backfill: S-standard, R-rigid surface,

X - recommended by the pole manufacturer

5. Two collapse modes: SE (separation), NS (no separation)

6. Directional sensitivity: to indicate the angle at which

a crash-friendly pole can be hit:

SD - single directional

BD - bi-directional

MD - multi-directional

7. Risk of roof indentation

Class 0 (not sensitive to dents)

Class 1 (sensitive to dents)

Pole equipment elements during the test:

- bracket arm length up to 2.0 m
- lighting fixture weight up to 11 kg
- foundation for SKPF-P version
- installed power line for EKO-P poles

SKPW-P SKPW-PP

SKPW-P PASSIVEPOLE direct buried



Passive pole direct buried with a low sleeve, heights from 3.0 m to 10.0 m and bottom diameter from 150 mm to 220 mm (symbol SKPW-P)

Impact speed	Classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
50km/h	50,NE,2	50-NE-C-S-SE-MD-0
70km/h	70,NE,2	70-NE-C-S-SE-MD-0
100km/h	100,NE,2	100-NE-C-S-SE-MD-0

Passivepole direct buried (no separation mode) with heights from 3.0m to 10.0m and bottom diameter from 150 mm to 220 mm (symbol SKPW-P)

Standard colours:	Classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
50km/h	50,NE,3	50-NE-B-S-NS-MD-0

Passivepole direct buried (separation mode) with heights from 3.0m to 10.0m and bottom diameter from 150 mm to 220 mm (symbol SKPW-P)

Standard	Classification according	Classification according
colours:	to: PN-EN 12767:2008	to: PN-EN 12767:2019
70km/h	70,NE,3	70-NE-B-S-SE-MD-0

Passivepole direct buried (separation mode) 12m high and bottom diameter 220 mm (symbol SKPW-P)

Standard colours:	Classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
100km/h	100,LE,3	100-LE-C-S-SE-MD-0

Passivepole direct buried (separation mode) 12m high with plate and bottom diameter 220 mm (symbol SKPW-P)

Standard colours:	classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
100km/h	100,HE,1	100-HE-E-S-SE-MD-0

SKPF-PP

SKPF-P PASSIVEPOLE with base plate



Passivepole with base plate, heights from $3.0\,\mathrm{m}$ to $12.0\,\mathrm{m}$ and bottom diameter from $150\,\mathrm{mm}$ to $250\,\mathrm{mm}$ (symbol SKPF-PP)

Impact speed	Classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
50km/h	50,NE,3	50-NE-B-S-SE-MD-0
70km/h	70,NE,3	70-NE-B-S-SE-MD-0
100km/h	100,NE,3	100-NE-B-S-SE-MD-0

Passive pole with base plate, heights from 3.0 m to 10.0 m and bottom diameter from 150 mm to 193 mm (symbol SKPF-P)

Impact speed	Classification according to: PN-EN 12767:2008	Classification according to: PN-EN 12767:2019
70km/h	70,NE,2	70-NE-C-S-SE-MD-0





Easy installation: buried poles are installed without the use of heavy equipment or expensive prefabricated foundations.



The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2).

(*) Detailed dimensions of the poles are described in the data sheets



Basicpole

For those who value solid solutions

Economical and durable composite lighting poles. They are distinguished by high quality, modern design and versatile use.

The product complies with the **PN-EN 40-7:2004** standard.



- lightweight and durable construction, designed to resist vandalism
- low transport and installation costs due to product's low weight and therefore high loading capacity
- resistance to adverse weather conditions, acids, road salt, animal waste
- exceptional durability approximately 40 years
- no need to use heavy and expensive equipment during installation
- no scrap value
- environmentally friendly lower CO2 emissions than standard solutions
- composite poles are 100% recyclable

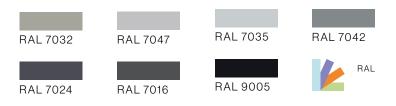
Basicpole

For those who value solid solutions

Technical properties:

- pole height: from 3 to 12 [m] (above the ground)
- bottom diameter of the poles: from 100 to 250 [mm]
- installation type: direct buried or flange base

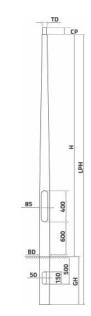
Standard colours:



Possibility to produce poles in any RAL colour



SKPF





Easy installation: buried poles are installed without the use of heavy equipment or expensive prefabricated foundations.



The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2).



pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	LPH (m)	GH (m)	W (kg)
SKPW 3,0	3,0	130, 150	60	130	4,0	1,0	10
SKPW 4,0	4,0	130, 150	60	130	5,0	1,0	12
SKPW 5,0	5,0	175	60	130	6,0	1,0	19
SKPW 6,0	6,0	175	60	130	7,0	1,0	22
SKPW 7,0	7,0	193	60	130	8,2	1,2	40
SKPW 8,0	8,0	193	60	130	9,2	1,2	50
SKPW 9,0	9,0	193	60	130	10,5	1,5	59
SKPW 10,0	10,0	193	60	130	11,8	1,8	65
SKPW 11,0	11,0	193	60	130	12,8	1,8	71
SKPW 12,0	12,0	193	60	130	13,8	1,8	77

pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	BPL (mm)	BPHD (mm)	W (kg)
SKPF 3,0	3,0	130, 150	60	130	275	200	15
SKPF 4,0	4,0	130, 150	60	130	275	200	18
SKPF 5,0	5,0	175	60	130	275	200	24
SKPF 6,0	6,0	175	60	130	275	200	26
SKPF 7,0	7,0	193	60	130	400	300	55
SKPF 8,0	8,0	193	60	130	400	300	60
SKPF 9,0	9,0	193	60	130	400	300	70
SKPF 10,0	10,0	193	60	130	400	300	75
SKPF 11,0	11,0	193	60	130	400	300	80
SKPF 12,0	12,0	193	60	130	400	300	85

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

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Easypole

Smart solutions at your fingertips

Composite pole with a practical hinge mechanism that allows you to tilt the structure at the base. This is an ideal solution, especially in hard-to-reach areas. The column hinged function and the buried version further facilitate installation and maintenance.



- lightweight, durable construction
- pole equipped with a hinge mechanism to facilitate mounting and dismounting of the luminaire, replacement of the light source and other maintenance operations
- easy installation in hard-to-reach areas for heavy lift trucks
- low transport and installation costs due to the light weight of the product (large loading capacity)
- resistance to adverse weather conditions, acids, road salt, animal urine
- composite structures do not conduct electricity
- exceptional durability approximately 40 years
- no need to use heavy and expensive equipment during installation
- no scrap value
- environmentally friendly lower CO2 emissions than standard solutions
- composite poles are 100% recyclable

Easypole

Smart solutions at your fingertips

Technical properties:

- lightweight construction
- does not conduct electricity, has no scrap value
- resistant to pollution and weather conditions (including road salt and animal pollutants)
- modern design
- height of poles from 3 to 12 [m]

Standard colours:



Possibility to produce poles in any RAL colour



SKPW-ŁS EASYPOLE direct buried

SKPF-ŁS EASYPOLE with base plate

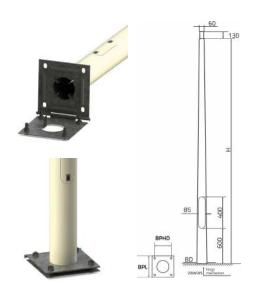




Easy installation: buried poles are installed without the use of heavy equipment or expensive prefabricated foundations



The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)

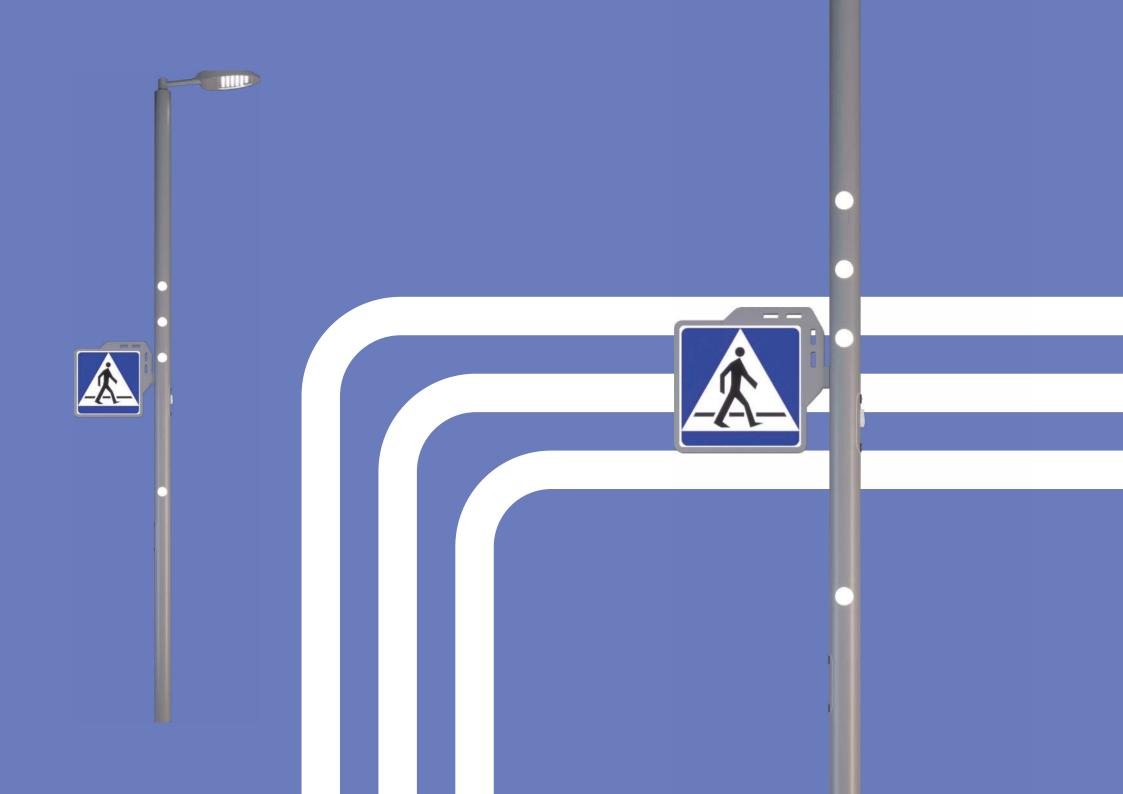


pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	LPH (m)	GH (m)	W (kg)
SKPW-ŁS 4,0/175/60	4,0	175	60	130	5,0	1,0	24
SKPW-ŁS 5,0/175/60	5,0	175	60	130	6,0	1,0	31
SKPW-ŁS 6,0/175/60	6,0	175	60	130	7,0	1,0	34
SKPW-ŁS 7,0/193/60	7,0	193	60	130	8,0	1,2	65
SKPW-ŁS 8,0/193/60	8,0	193	60	130	9,2	1,2	75
SKPW-ŁS 9,0/193/60	9,0	193	60	130	10,5	1,5	85
SKPW-ŁS 10,0/193/60	10,0	193	60	130	11,8	1,8	125
SKPW-ŁS 11,0/193/60	11,0	193	60	130	12,8	1,8	130
SKPW-ŁS 12,0/193/60	12,0	193	60	130	13,8	1,8	130

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	BPL (mm)	BPH D (mm)	W (kg)
SKPF-ŁS 4,0/175/60	4,0	175	60	130	260	200	30
SKPF-ŁS 5,0/175/60	5,0	175	60	130	260	200	36
SKPF-ŁS 6,0/175/60	6,0	175	60	130	260	200	38
SKPF-ŁS 7,0/193/60	7,0	193	60	130	400	300	80
SKPF-ŁS 8,0/193/60	8,0	193	60	130	400	300	85
SKPF-ŁS 9,0/193/60	9,0	193	60	130	400	300	95
SKPF-ŁS 10,0/193/60	10,0	193	60	130	400	300	100
SKPF-ŁS 11,0/193/60	11,0	193	60	130	400	300	105
SKPF-ŁS 12,0/193/60	12,0	193	60	130	400	300	110

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.



Smart City

- Smartpole Crossing
- Electric car charging stations (Smartpole Charger)
- Designpole

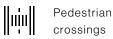


Smartpole Crossing

A system of active, safe pedestrian crossings

The use of advanced electronic systems (including motion detectors) and audible and visual warning signals effectively inform the driver that a pedestrian has entered or is about to enter a pedestrian crossing.





- smartpole Crossing solution improves pedestrian and driver concentration
- asymmetrical lighting improves visibility at and around the crossing, increasing pedestrian safety
- light signals alert drivers to the presence of people in the crossing area who want to cross to the other side
- intelligent motion detection sensors ensure optimal traffic flow
- algorithms ensure that the visual and audible warning systems are active long enough to allow disabled people, theelderly and children to cross
- a voice message informs pedestrians approaching the crossing that they need to take extra care
- composite poles are 100% recyclable

Smartpole Crossing

A system of active, safe pedestrian crossings

Technical properties:

- pole height: 6 [m] (above the ground)
- installation type: direct burial or flange base
- pole weight: approx. 26 [kg]
- cylindrical pole diameter 175 [mm]
- warning signals in the form of 9 incandescent lamps placed in the pole structure
- luminaire with asymmetrical illumination
- illuminated traffic sign D-6 with translucent reflective film
- one motion sensor
- loudspeaker for broadcasting voice messages
- a radio communication system between the poles
- a system that maintains the power supply to sensors and light and sound signals after the mains power supply is disconnected
- power system (network)

Standard colour:





Possibility to produce poles in any RAL colour

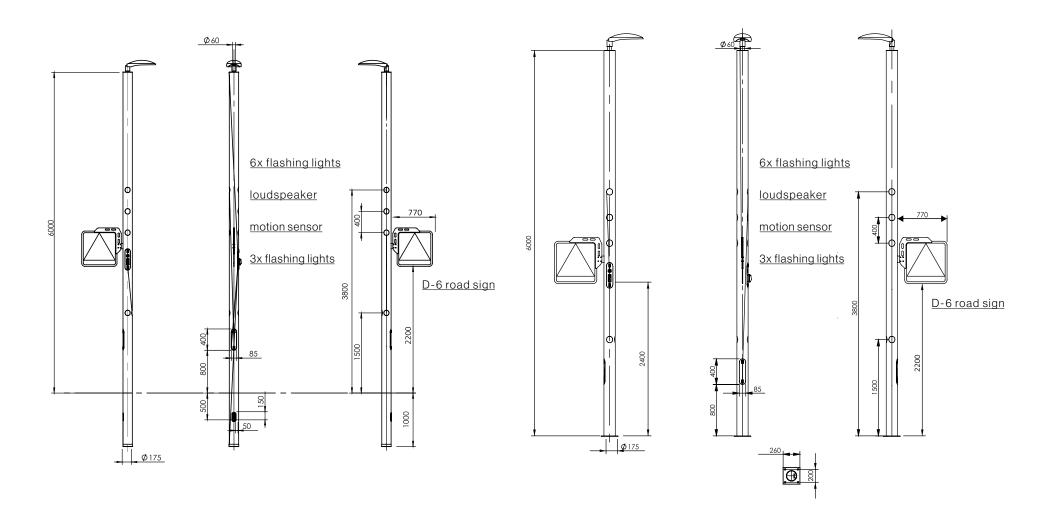


¹ It is possible to order a different traffic sign, e.g. T - 27 or D - 6b.

SKPF

The recommended soil compaction

index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)





Electric car charging stations (Smartpole Charger)

Composite solutions for electromobility

EV charging stations made from the highest quality composite on a low composite pole and in a composite lighting column.

APPLICATION:



Commercial



Gas stations



HoReCa





Parking

- low installation and operating costs ensure quick return on investment
- integrated OLED display
- EV Charges are manufactured using only the highest quality
- the products we offer have passed rigorous tests for safety of use
- the product specifications make it possible to take advantage of many public funding programmes
- NCT provides professional and comprehensive customer
- we offer installation and technical advice throughout Poland
- external communication according to OCCP 1.6 or newer protocol
- composite poles are 100% recyclable

Electric car charging stations

- EV charging station built in a low composite pole (Charging Lighting Pole 2 x 22 kW)
- EV charging station built in a composite lighting pole (Charging Pole 2 x 22 kW)

Caution! Possibility of using the existing (electrical) connection infrastructure.

Technical properties:

- charging power: 2×7.4kW (16 A); 2×22kW (32A)
- power supply: single or three-phase
- charging socket or spiral cables up to 4 [m] (type 2)
- authorization: RFID or via application
- protection level: IP 54 , IK 10
- approval for public use
- safety: MCB overcurrent protection, residual current protection – RCB class B
- energy measurement: MID counter
- driver system controller (GPS/GPRS)



Charging efficiency comparison table

Normal power of the station - charging point [kW]	Increase in the range of an electric vehicle (emission-free) (km /1h of charging) ¹	Time required to fully recharge (7% to 90%) a 70 kWh battery [h]²	Additional information
3,7 (e.g.: factory converter + home socket)	17	19	 long charging time, limiting the possibility of using a zero-emission vehicle. relatively lower level of safety of the charging process
7 (e.g. single-phase charging station EV Charge)	36	9,5	 optimal charging time competitive price relatively low load on the electrical system minor impact on the reduction of battery life
22 (e.g. three-phase charging station EV Charge)	115	3,2	— very short charging time. — relatively high load on the electrical system.

¹ Consumption of electricity by a given vehicle as well as the level of discharge and the condition of the battery.

 $^{^2}$ The estimated value depends mainly on the condition of the battery and the outside temperature. It should be remembered that the charging power graph is exponential as it decreases with the charging time.

³ No communication between the power point and the vehicle's internal charger, no class B residual current device



Designpole

A distinctive emphasis on good design

A collection of composite lighting poles with stylish graphics - external pattern and internal illumination.

Order a custom design or use ready-made graphics

(e.g. birch, wood, candy, etc.). Designpole is an ideal solution for parks, squares, playgrounds, alleys and many other places where an elegant and practical solution is required.

In addition to their aesthetic value, the poles are characterised by low running costs. Reducing the cost of electricity consumption is possible thanks to the internal illumination, which not only creates a visual effect but also provides excellent visual guidance without the need to activate the top luminaire. The main light source can therefore only be switched on late at night or according to the investor's instructions.

APPLICATION:



Parks, squares, monuments



Playgrounds, recreational facilities



Commercial facilities



HoReCa



PRODUCT ADVANTAGES:

- modern design adapted to the customer's requirements and conditions (e.g. logo, city emblem, advertising slogan, pattern adapted to the building facade or surroundings),
- possibility of using aesthetic and practical internal illumination. It is also an opportunity to save energy.
- light and durable structure with high resistance to vandalism
- low transport and installation costs due to the product's low weight and therefore high loading capacity
- resistance to adverse weather conditions, acids, road salt, animal urine
- composite structures do not conduct electricity
- exceptional durability approximately 40 years
- no need to use heavy and expensive equipment during installation
- no scrap value
- eco-friendly lower CO2 emissions than standard solutions
- composite poles are 100% recyclable

Designpole

A distinctive emphasis on good design

Technical properties:

- pole height: from 3 to 12 [m] (above the ground)
- bottom diameter: from 100 to 250 [mm]
- installation type: direct buried or anchor base
- pole weight: from 10 to 90 [kg]
- possibility to produce poles with any technical parameters
- pole top diameter: 60 [mm] (aluminium sleeve 130 [mm] long)
- inspection door at a height of 600 mm from the ground, dimensions: 400 x 85 [mm], IP 44, IK10

Pole designs in the standard offer:







birch

clover

candy

wood



Possibility of using individual graphics, examples:

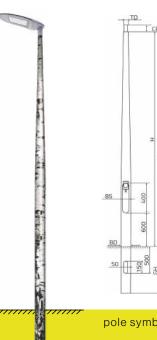














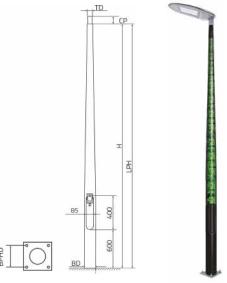
Easy installation: buried poles are installed without the use of heavy equipment or expensive prefabricated foundations



The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)

Internal LED illumination 5W / 230VAC / 4000K

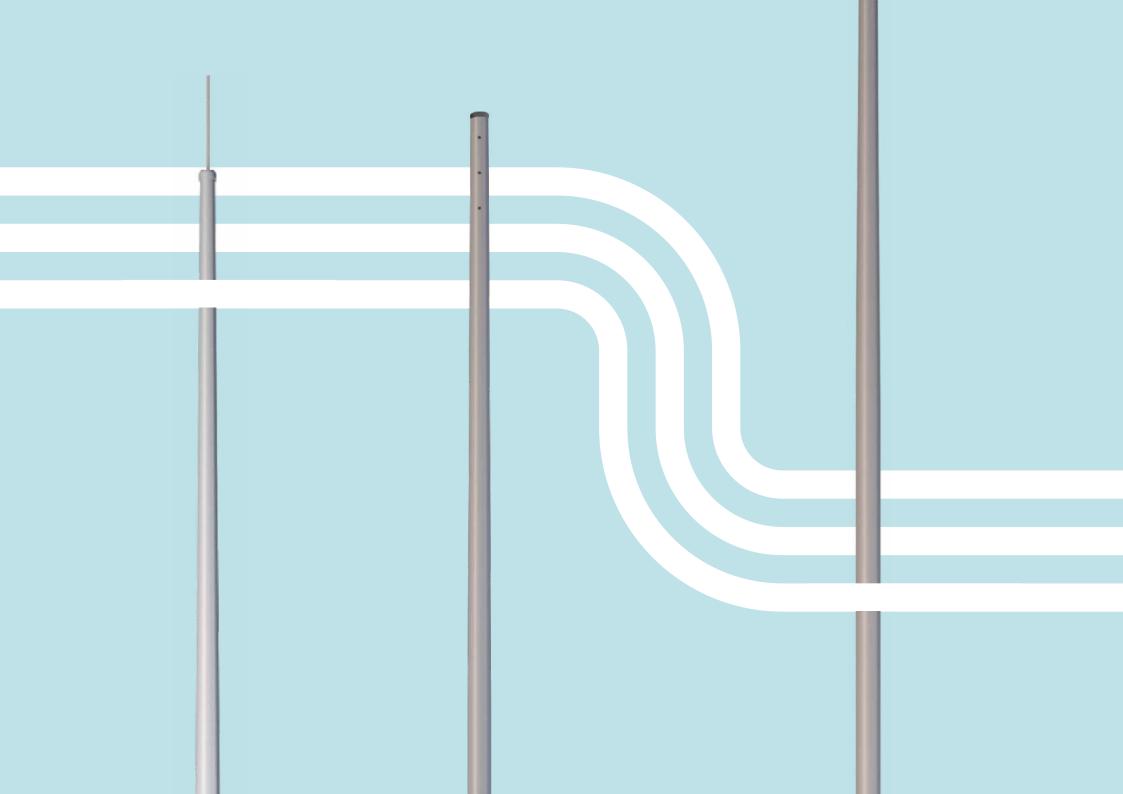
In a situation where there is no pedestrian traffic and therefore no need to switch on the top luminaire, it is possible to take advantage of the so-called visual tracking effect



pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	LPH (m)	GH (m)	W (kg)	pole symbol	H (m)	BD (mm)	TD (mm)	CP (mm)	BPL (mm)	BPHD (mm)	W (kg)
SKPW-D3,0	3,0	130, 150	60	130	4,0	1,0	10	SKPF-D 3,0	3,0	130, 150	60	130	275	200	15
SKPW-D 4,0	4,0	130, 150	60	130	5,0	1,0	12	SKPF-D 4,0	4,0	130, 150	60	130	275	200	18
SKPW-D 4,0	5,0	175	60	130	6,0	1,0	19	SKPF-D 5,0	5,0	175	60	130	275	200	24
SKPW-D 6,0	6,0	175	60	130	7,0	1,0	22	SKPF-D 6,0	6,0	175	60	130	275	200	26
SKPW-D 7,0	7,0	193	60	130	8,2	1,2	40	SKPF-D 7,0	7,0	193	60	130	400	300	55
SKPW-D8,0	8,0	193	60	130	9,2	1,2	50	SKPF-D 8,0	8,0	193	60	130	400	300	60
SKPW-D9,0	9,0	193	60	130	10,5	1,5	59	SKPF-D 9,0	9,0	193	60	130	400	300	70
SKPW-D 10,0	10,0	193	60	130	11,8	1,8	65	SKPF-D 10,0	10,0	193	60	130	400	300	75
SKPW-D 11,0	11,0	193	60	130	12,8	1,8	71	SKPF-D 11,0	11,0	193	60	130	400	300	80
SKPW-D 12,0	12,0	193	60	130	13,8	1,8	77	SKPF-D 12,0	12,0	193	60	130	400	300	85

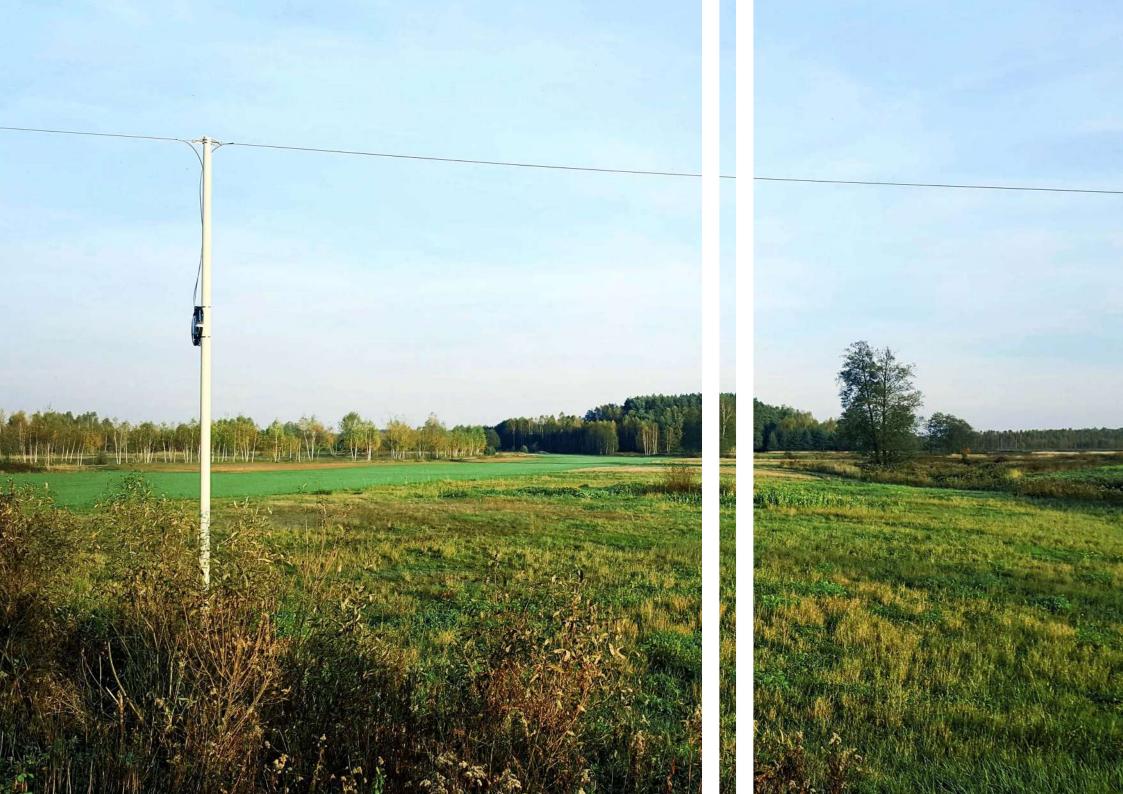
At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.



Specialised solutions

- Technical poles
- Masts
- Other products and accessories



Telecommunication poles

High quality composite structure dedicated to the telecommunications, construction and electrical installation industries.

Low weight combined with high physical and chemical resistance ensures efficient installation and long-term trouble-free operation, e.g. fibre optic cable.

APPLICATION:



Construction



Monitoring



Telecommunications
/ Fiber optic networks

PRODUCT ADVANTAGES:

- an ideal alternative to wooden and concrete poles
- low transport costs and high load capacity (1 TIR up to 300 poles)
- manual handling of poles possible in difficult terrain
- possibility of efficient and cost-effective installation without the use of heavy equipment
- increased peak force and low coefficient of permanent deformation
- wide range of heights
- high resistance to vandalism, adverse weather conditions, road salt, animal urine
- wide range of applications telecommunication cables
- (e.g. fibre optic, lightning protection, surveillance, flag poles)
- short installation time using special mounting mass
- recommended by the Telecommunication Builders Association
- composite poles are 100% recyclable

Telecommunication poles

Replace wooden and concrete poles with modern composite structures

Technical properties:

- pole height: 7 [m]; 8.5 [m]; 10 [m]
- top load: 0.3 kN; 0.7 kN; 1.6 kN; 2.5 kN
- possibility to produce a pole with various technical parameters
- installation type: direct burial or in concrete stilts
- pole weight: from 12 to 55 [kg]
- possibility of using individual colours or external graphics (e.g. birch, wood, advertising and information graphics; any colour)
- possibility of using two-component assembly foam (1000 ml for one pole), recommended for poles with a total height not exceeding 7 [m]

Standard colour:





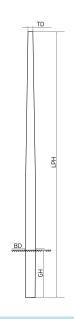
RAL

Possibility to produce poles in any RAL colour



TKPW

TELECOMMUNICATION POLE direct buried





The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)



The digging depth depends on the soil class, height and top load of the pole



LPH (m)	top load (kN)	BD (mm)	TD (mm)	GH (m)	W (kg)	
7	0,3	140	110	1,2	12	
8,5	0,3	165	120	1,2	16	
10	0,3	165	120	1,5	27	
7	0,7	140	110	1,2	18	_
8,5	0,7	165	120	1,2	29	
10	0,7	193	140	1,5	31	
7	1,6	165	120	1,2	24	
8,5	1,6	165	120	1,2	47	
10	1,6	193	140	1,5	55	
7	2,5	200	150	2,0	23	
8,5	2,5	240	200	2,0	35	
10	2,5	240	200	2,0	50	

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

We recommend the use of quick-drying mounting compound

read more on page 71



Power poles

Composite technology for special applications

Thanks to the properties of the composite material, energy poles are characterised by high physical and mechanical strength and low weight, allowing efficient transport even in the most inaccessible terrain. They are an ideal alternative to concrete, wood and steel poles.

APPLICATION:



Construction



Energetics

PRODUCT ADVANTAGES:

- high durability and mechanical resistance
- resistance to adverse weather conditions, animal urine, acids, alkalis and road salt
- slow-burning
- no electrical conductivity
- light weight, reducing transport costs by up to 60% compared to traditional poles
- the light weight of the product allows efficient installation of a line even in the most inaccessible areas without the use of heavy equipment
- shorter investment implementation time
- the only product in Europe tested for passive safety in the event of a road collision according to the PN EN 12767: 2019 standard in class 50. HE.3
- no corrosion
- various colors and external graphics available
- certificate of conformity with the company standard
- composite poles are 100% recyclable

Power poles

Composite technology for special applications

Technical properties:

- flammability class HB, according to ASTM D635:2014
- water absorption ≤ 10‰, according to PN-EN ISO 62:2000
- tensile strength > 300 MPa, according to PN-EN ISO 527-4:2000
- flexural strength under the influence of external factors according to PN-EN ISO 178:2011
- hardness > 40 HBa, according to PN-EN 59:2002
- surface resistivity 2.69 Ωm x 1013, WG ASTM D257:1991
- volume resistivity 7.67 Ωm x 10 12, according to ASTM D257:1991
- dielectric strength ≥5 kV/mm, according to PN-EN 60243-1:2013
- the upper part has factory drilled holes for efficient installation of the necessary accessories
- pole weight: from 70 to 130 [kg]
- load capacity [TIR 24 t] from 50 to 80 pieces of poles

Standard colour:





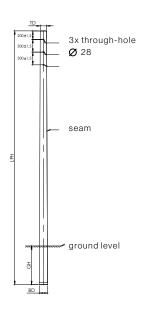
RAL

Possibility to produce poles in any RAL colour



EKO

direct burial POWER POLE





3 The recommended soil compaction

index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)

The digging depth depends on the soil class, height and top load of the pole

Installation without additional support elements

direct buried pole





n without Installation with additional support support support

pole symbol	top load (kN)	LPH (m)	BD (mm)	TD (mm)	GH (m)	W (kg)
EKO 9/2,5	2,5	9	193	150	1,5	60
EKO 9/4,5	4,5	9	193	150	1,5	80
EKO 9/6	6	9	220	173	1,5	85
EKO 10,5/2,5	2,5	10,5	193	150	1,5	70
EKO 10,5/4,5	4,5	10,5	193	150	1,5	85
EKO 10,5/6	6	10,5	250	173	1,5	100
EKO 12/2,5	2,5	12	220	173	1,7	100
EKO 12/4,5	4,5	12	250	173	1,7	120
EKO 12/6	6	12	250	218	1,7	130

The embedded depth depends on the soil class, height and top load of the pole.

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

additional accessories; slabs

slab type	dimensions (cm)
slab U-85	85x60
slab U-130	130x60
slab	35x35



Innovative composite solutions

for hop growing are working perfectly at, i.e. the Jastków plantation in Poland. We also have **experience in bioremediation** of PAH-contaminated land.

Crops under strict supervision (IoT monitoring systems)

Because of their structure, composite poles can be equipped with measurement and monitoring devices. This allows continuous monitoring of the growing conditions and prevention of diseases and pests.

Renewable energy - devices producing renewable energy

The innovative design of the hop trellis that we implemented allows for the installation of equipment that produces energy from renewable sources.

Automated watering and fertilising

Composite structures allow the use of drip irrigation and fertigation systems specifically designed for hops. This optimises costs and minimises the use of chemicals in the growing process.

High quality hop production and processing

The use of composite structures in hop trellises allows us to obtain the highest quality raw material, free from pollution.

Composite hop trellis

Advanced technology for crops

NCT is the world's only manufacturer of a complete system of technologically advanced composite hop trellis.

This makes it possible to monitor and increase the efficiency of hops cultivation without PAHs.

APPLICATION:



PRODUCT ADVANTAGES

- the composite structure of the hop trellis does not emit any harmful substances (including PAHs).
- the properties of the composite material are ideal for the difficult environment of hop agrocenosis.
- possibility of creating a system for monitoring environmental conditions in hop yards (soil moisture, temperature, humidity, wind speed and direction, precipitation, photosynthetically active radiation).
- sensors, measuring and communication devices can be installed inside the composite poles.
- possibility of safe installation of photovoltaic panels and vertical wind turbines to supply power for measuring devices, video surveillance, communication devices (antennas).
- long life of the pole: 40 years is the minimum lifetime of composite structures
- composite poles are 100% recyclable
- easy and economical to transport and install: composite structures are light and do not require the use of heavy equipment

Composite hop trellis

Advanced technology for crops

Technical properties:

- pole height: 8 10 [m] (total length)
- installation type: direct buried
- four types of poles: central (160/130/1.7 kN),
 line end (160/150/2.8 kN), beam end (200/200/5.4 kN),
 corner (200/200/6 kN)
- possibility to produce masts on request in a wide range of technical parameters
- loading capacity: TIR [24t] approx. 150 poles
- possibility of using individual colours or external graphics (e.g.birch pattern, advertising and information graphics)
- pole weight: from 27 to 62 [kg]
- possibility of using internal LED illumination

Standard colour:



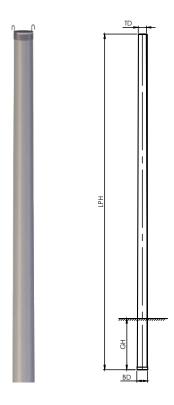


RAL

Possibility to produce poles in any RAL colour



Composite hop trellis



pole type	total length (m)	bottom diameter (mm)	top diameter (mm)	embedded length (m)	pole load force in axis (kN)
central pole	8	160	130	1,0	10
line end pole	9,1	160	150	1,20	18,9
beam end pole	9,1	200	200	1,20	44,9
corner pole	9,2	200	200	1,30	46,2

At the customer's request, it is possible to produce poles with non-standard parameters. Possibility to reinforce the pole for difficult operating conditions.

Pole covers for net installation



central poles coverh



end poles cover



A cap to prevent embedding of the pole.



Stormpole

Effective lightning protection

Polymer composites are an ideal material for lightning protection structures.

The purpose of the pylon is to protect homes and industrial installations from the effects of lightning.

The composite lightning protection **mast provides the required separation from the protected objects** while minimising the costs of installation, maintenance and use.

We provide professional technical advice and assistance in selecting the appropriate lightning protection installation.

APPLICATION:



Construction



stations



Waterworks



Industrial factories



Private properties

PRODUCT ADVANTAGES:

- the mast insulates the lightning conductor and protects the surrounding area.
- diameter of the protected area: up to 200 metres
- resistance to adverse weather conditions and acids.
- road salt, animal urine
- composite structures do not conduct electricity
- a composite lightning pole has no scrap value
- lightweight and durable construction with high resistance to vandalism
- mast life of at least 40 years
- composite poles are 100% recyclable

Stormpole

Effective lightning protection

Technical properties:

- height of masts: from 5 to 20 [m] with spire
- installation type: direct buried or with anchor base
- possibility of using individual colors from the RAL palette or external graphics (e.g. birch pattern; advertising and information graphics; any color)

Standard colour:

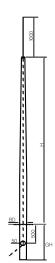




RAI

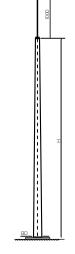
Possibility to produce poles in any RAL colour



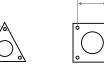




The recommended soil compaction index Is should be between 0.95 and 1.02 (according to PN-EN ISO 14688-2)



types of hinged bases







mast 5-12m

mast 13-17m

mast 18-20m

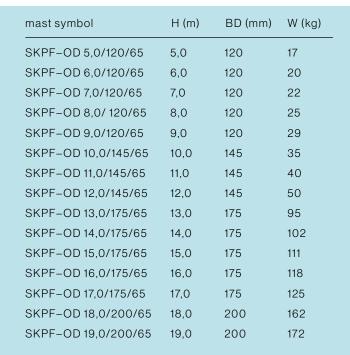


For masts with a height of 16 m or more, it is recommended to use guy wires.

The final decision is made by an accredited design office

* At the customer's request, we offer a screw spacing of 200 x 200 mm

mast symbol	H (m)	BD (mm)	GH (m)	W (kg)
SKPW-OD 5,0/120/65	5,0	120	1,0	15
SKPW-OD 6,0/120/65	6,0	120	1,0	18
SKPW-OD 7,0/120/65	7,0	120	1,0	21
SKPW-OD 8,0/120/65	8,0	120	1,0	23
SKPW-OD 9,0/145/65	9,0	120	1,8	29
SKPW-OD 10,0/145/65	10,0	145	1,8	31
SKPW-OD 11,0/145/65	11,0	145	1,8	41
SKPW-OD 12,0/175/65	12,0	175	2,0	54
SKPW-OD 13,0/175/65	13,0	175	2,0	92
SKPW-OD 14,0/175/65	14,0	175	2,0	102
SKPW-OD 15,0/175/65	15,0	175	2,0	105
SKPW-OD 16,0/175/65	16,0	175	2,0	112
SKPW-OD 17,0/175/65	17,0	175	2,0	116
SKPW-OD 18,0/200/65	18,0	200	2,0	125
SKPW-OD 19,0/200/65	19,0	200	2,0	128



Flagpoles

Composite and aluminium structures of the highest quality

They are perfect to advertise or represent and meet the needs of institutional and corporate clients.

APPLICATION: Industrial factories Local government, administration Private properties Commercial facilities Farks, squares, monuments



Available versions of composite and aluminium flagpoles



STANDARD

The flag is hoisted by a rope that is outside the mast. The rope is tied to a cleat placed 1.5 m above the ground. The exposure of the flag depends on the wind gusts.



SUPER

The rope is located in the middle of the mast.

The flag is raised and lowered by a rope attached to the internal cleat, which is hidden inside the mast tube. This solution provides partial protection against flag theft. A flag weight is attached to the underside of the flag to tension it.



SUPERWINDTRACKER

It is a version with a rope in the middle and a horizontal arm at the top, attached to a rotating socket. This solution allows the flag to be fully displayed regardless of the wind and to be raised and lowered with internal halyard system.

Fiberglass flagpoles

PRODUCT ADVANTAGES:

- wide range of parameters and accessories
- extremely light and easy to assemble composite structure
- no scrap value
- high resistance to vandalism, road salt, animal waste
- lifetime of composite poles approx. 40 years
- 100% recyclable easy to dispose of

Technical properties:

- height of composite masts from 6 to 12 [m]
- MAXIMA masts: from 14 to 20 [m]
- installation type: hinged base
- fiberglass flagpoles weight: from 9 to 15 [kg]
- MAXIMA flagpoles weight: from 80 to 170 [kg]

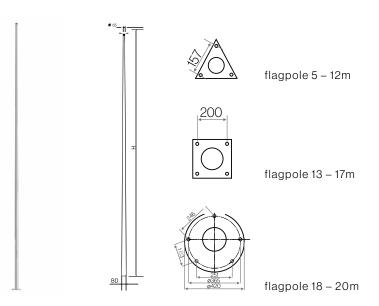
Standard colour:



RAL 9010

Possibility to produce poles in any RAL colour







hinged base plates





base cover portable steel base (for paving slabs)

flagpole symbol	total length (m)	bottom diameter (mm)	top diameter (mm)	number of sections
MFK 6	6	120	65	1
MFK 8	8	120	65	1
MFK 10	10	145	65	1
MFK 12	12	145	65	1
MFK 14	14	175	65	2
MFK 16	16	175	65	2
MFK 18	18	200	65	2
MFK 20	20	200	65	2

Aluminium flagpoles

Advantages:

- wide range of parameters and accessories
- extremely lightweight and easy to install
- 100% recyclable easy to dispose of
- flagpoles made of special aluminium alloy with increased elasticity and durability (meets the requirements of PN-EN 40 and PN-EN 1991-1-4:2008)
- protection of tubes with a natural anode with a minimum thick ness of 20 $\mu m. \,$

Technical properties:

- height of aluminium flagpoles from 6.35 to 12 [m]
- installation types: ground sleeve or hinged base
- flagpole weight: from 7 to 22 [kg]
- wall thickness from 1.2 to 3.5 [mm]

Standard colours:





RAL

Possibility to produce poles in any RAL colour





aluminium sectional flagpole



bases

ground sleeve



hinged base

additional installation accessories



white base cover



silver base cover



portable steel base (for paving slabs)

flagpole symbol	total length (m)	bottom diameter (mm)	top diameter (mm)	number of sections
MFA 6,35	6,35	65	50	2
MFA 8,35	8,35	80	50	3
MFA 10	10	80	50	3
MFA 12	12	95	50	4

ALUMINIUM SECTIONAL FLAGPOLES:

Aluminium sectional flagpoles consist of two to four segments, depending on the height. The sectional structure makes the masts much easier to transport and the maximum length of an element does not exceed 4m.

Available heights:

- 6,35 m
- 8,35 m
- 10 m
- 12 m

Selected additional accessories for flagpoles



rotating socket (plastic-aluminium)



silver base cover



white base cover



plastic cap (for rotating socket)



gold onion finial (for rotating socket)



kevlar or poliester rope with swivel







windtracker arm



flag weight



hoisting winch



internal cleat



external cleat

Pultrusion technology

NCT products:

- MESHES

- ANGLES

- PIPES

- CHANNELS

- SUPPORTS

- BARS

TEES

PROFILES



channels



angles



pipes - closed composite profiles



rebars

The product has a National
Technical Assessment
with a positive assessment
of its performance characteristics.

A modern, strictly controlled production process has enabled us to create a wide range of products characterised by high durability and physical and mechanical strength.

Composite structures made by pultrusion are intended, among other things, for the construction, road building, industrial and renewable energy sectors.

PRODUCT ADVANTAGES:

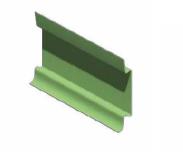
- wide range of applications
- high physical and mechanical strength
- product length up to 13 m
- various colours available
- can be used as a covering, supporting structure and reinforcing element
- high thermal resistance

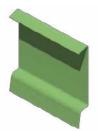


reinforcement meshes

Herpetological fences

Protection of amphibians and reptiles on expressways and highways







Herpetological fencing is a complete system that protects amphibians and other species from the dangers of road traffic. Our herpetological fences are successfully used on motorways and highways. Thanks to their high quality and ease of installation, composite herpetological fences have gained recognition among leading companies in the road construction industry.

PRODUCT ADVANTAGES:

- low product weight, which reduces transport costs and investment implementation time
- high quality and aesthetics
- easy and safe installation
- resistance to extremely adverse weather and road conditions,
 e.g. road salt
- resistance to UV and unfavourable temperature conditions
- slow-burning

Additional accessories

reversing and assembly angles

Dielectric post system

The dielectric post system is an ideal solution for installers and electricians who want to install an overhead line directly to a specific building in a simple and safe way.





PRODUCT ADVANTAGES:

- the light weight of the product allows for efficient and safe installation on the building wall.
- high load capacity
- wide range of applications
- high resistance to extremely unfavourable weather and temperature conditions
- possibility to adjust the diameter and length of the post to the individual needs of the customer.
- steel part protected against corrosion (galvanised)
- slow-burning



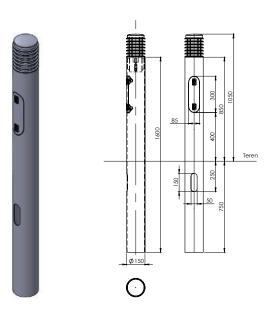
Railway fog pole for marshalling yards

PRODUCT ADVANTAGES:

- easy installation without the need for heavy equipment
- high quality
- no need for maintenance
- significantly improves safety, e.g. in railway traffic
- resistant to adverse weather conditions, animal urine, acids, alkalis
- no scrap value

TECHNICAL DATA:

- with an inspection door
- direct buried
- total length of the pole: 1410 mm





Do you have a special request?

Let's talk about what we can do for you.

The properties of composite materials make it possible to create **unusual designs**.

Check

a selection of projects specially produced for our customers:



Portable solar mast



Installation platform
- adapter for CCTV installation



Windsock

Quick-binding mounting compound (foam)

An innovative product for embedding and stabilizing poles in the ground, especially recommended for the installation of telecommunication poles. One package is a two-component resin mass, which, after mixing and pouring into the hole between the pole and the substrate, grows for about 4-6 minutes, tightly filling the space and creating a permanent fixture resistant to moisture and changing environmental conditions.



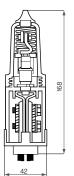


QUICK-BINDING MASS (ASSEMBLING FOAM) IS RECOMMENDED:

- with an opening size of 10-15% of the bottom diameter of the column
- for poles with a total length not exceeding 7 [m]

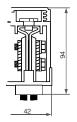
Selected additional accessories

Cable joints



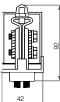
IZK-4-01

Insulating cable joint (single-phase with fuse space). The connector does not include a fuse.



IZK-4-02

Insulating cable joints (phase).



IZK-4-03

Insulating cable joint (neutral).



IZK-4-03

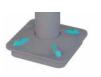
Insulating cable joint (neutral non-insulated).



sleeve

- adaptive overlay

A system that allows the installation of original NCT poles to non-dedicated foundations with a different bolt spacing.

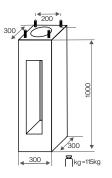


Inspection door

Made of composite material in colour and dimensions adapted to the poles. Complete product, ready for installation.



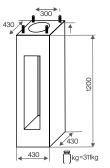
Prefabricated concrete foundations



F100/30

For lighting poles up to 6m high

For a pole with 200 mm bolt spacing with a mounting kit (nuts and bolts).

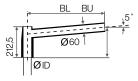


F120/43

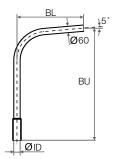
For lighting poles from 7 - 12 m

For a pole with 300 mm bolt spacing with a mounting kit (nuts and bolts).

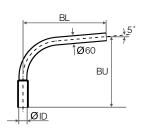
one-sided bracket, inclination angle 5°



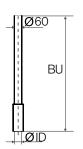
WJ1 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WJ1/60/5/500	500	60	200	1,8
WJ1/60/5/1000	1000	60	249	2,6
WJ1/60/5/1500	1500	60	293	3,4



WJ2 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WJ2/60/5/500	500	60	1000	3,4
WJ2/60/5/1000	1000	60	1000	4,2
WJ2/60/5/1500	1500	60	1000	5,0

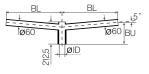


WJ3 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WJ3/60/5/500	500	60	500	2,4
WJ3/60/5/1000	1000	60	500	3,4
WJ3/60/5/1500	1500	60	500	4,2

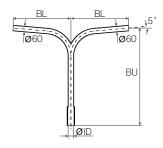


Single bracket (vertical) WP			
bracket symbol	ID (mm)	BU (mm)	weight (kg)
WP/60/1000	60	1000	2,6

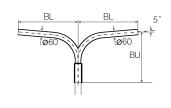
two-sided bracket, inclination angle 5°



WD1 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WD1/60/5/500	500	60	200	2,6
WD1/60/5/1000	1000	60	249	4,2
WD1/60/5/1500	1500	60	293	5,8



WD2 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WD2/60/5/500	500	60	1000	4,2
WD2/60/5/1000	1000	60	1000	5,8
WD2/60/5/1500	1500	60	1000	7,4



WD3 GROUP				
bracket symbol	BL (mm)	ID (mm)	BU (mm)	weight (kg)
WD3/60/5/500	500	60	500	3,2
WD3/60/5/1000	1000	60	500	5,0
WD3/60/5/1500	1500	60	500	6,6



4x M6 mounting screws

bracket on a clamp	
inclination angle 5°	

BRACKET			
bracket symbol	BL (mm)	ID (mm)	weight (kg)
bracket	500	60	2,6
on a clamp	1000	60	4,2

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