

## TYPE OF CABLES

**XRUHAKXS, XRUHKXS - NA2XS(FL)2Y, N2XS(FL)2Y, NRUHAKXS,  
NRUHKXS - NA2XS(FL)H, N2XS(FL)H**



### Legend to the figure 1.

- 1 – Aluminium or copper conductor.
- 2 – Semi-conductive screen extruded on the phase conductor.
- 3 – XLPE insulation.
- 4 – Semi-conductive screen extruded on insulation.
- 5 – Wrapping of semi-conductive water swelling tape
- 6 – Metallic screen.
- 7 – Wrapping of semi-conductive water swelling tape
- 8 – Longitudinally applied aluminium tape coated with PE copolymer.
- 9 – MDPE outer sheath.

For the special application Tele-Fonika Kable S.A. offered single-core a cable type

**YHAKXS, YHKXS - NA2XSY, N2XSY - XHAKXS, XHKXS - NA2XS2Y,  
N2XS2Y, NHAKXS, NHKXS - NA2XSH, N2XSH**



### Legend to the figure 2.

- 1 – Aluminium or copper conductor.
- 2 – Semi-conductive screen extruded on the phase conductor.
- 3 – XLPE insulation.
- 4 – Semi-conductive screen extruded on insulation.
- 5 – Semi-conductive tape wrap, non swelling under action of water.
- 6 – Metallic screen.
- 7 – Wrapping of polyester tape.
- 8 – Outer sheath: PVC, MDPE, LSF

**XUHAKXS, XUHKXS - NA2XS(F)2Y, N2XS(F)2Y, NUHAKXS, NUHKXS - NA2XS(F)H, N2XS(F)H**



**Legend to the figure 3.**

- 1 – Aluminium or copper conductor.
- 2 – Semi-conductive screen extruded on the phase conductor.
- 3 – XLPE insulation.
- 4 – Semi-conductive screen extruded on insulation.
- 5 – Wrapping of semi-conductive water swelling tape
- 6 – Metallic screen.
- 7 – Wrapping of non conductive water swelling tape
- 8 – Outer sheath: MDPE, LSF

**CABLE SELECTION**

High-voltage cables are manufactured on the basis of customers' specifications or factory standard.

Constructing of cables is mainly on the basis of IEC standards.

**IEC 60287** – Electric cables - Calculation of the current rating. Current rating equations (100 % load factor) and calculation of losses

**IEC 60853** – Calculation of the cyclic and emergency current rating of cables

**IEC 61443** – Short-circuit temperature limits of electric cables with rated voltages above 30 kV ( $U_m = 36$  kV)

**IEC 60228** – Conductors of insulated cables

The aim of increase of efficiency of constructional works was prepared by computer program that enables not only calculations but also simulation of operating conditions of cable system.

**CALCULATION BASIS:**

**IN GROUND** – temperature 20°C , laying depth 1,0 m, soil thermal resistivity  $K = 1,0$  Km/W, phase distance at flat formation = 70 mm + cable diameter

For cables installed in separate pipes the ampacity is reduced to 90% of values presented in tables on next pages.

**IN AIR** – temperature 30°C

**LAYING CONDITION:**

Minimum laying temperature: minus 20°C

Minimum bending radius: values in mm according to tables on next pages

Maximum pulling force by means of the conductor or a basket over an outer jacket: values in kN according to tables above Minimum inner diameter of pipe: min.  $1.5 \times D$  (mm) , where D = outer cable diameter in mm.

**The constructions detailed in this catalogue cover the most popular designs but please note that Tele-Fonika Kable has the capability to manufacture HV cables according to other standards as well as specific customer's requirements.**