

Low-loss power cables incorporating load-bearing and conducting Cu-Ag alloy wire cores

Description of the solution:

The designs show six different varieties of low-static power conductors containing load-bearing and conducting Cu-Ag alloy wire cores. Each wire contains a load-bearing and conductive core made of copper alloys with high mechanical strength and electrical conductivity, and the outer layers superimposed on this core are made from wires made of technically pure aluminium in a soft condition and with a non-circular cross-section.

Benefits of the solution:

- Reduction of transmission losses.
- Reduction of CO₂ emissions.
- Increase in the current carrying capacity and improved electrical conductivity.
- Increasing the operating temperature limit level of the conductor to higher values than for conventional conductors (i.e. above the typical temperature of 80°C).
- A reduction in the outer diameter of the conductor due to an increase in the metal filling of the conductor's cross-section, which is beneficial from the point of view of performance parameters such as wind pressure on the conductor or frost load on the conductor.

Area of application:

Power engineering (transmission of electric energy).

Technology readiness level:

9

Intellectual property:

Community designs:
from 001961939-0001 to 001961939-0006

Owner:

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