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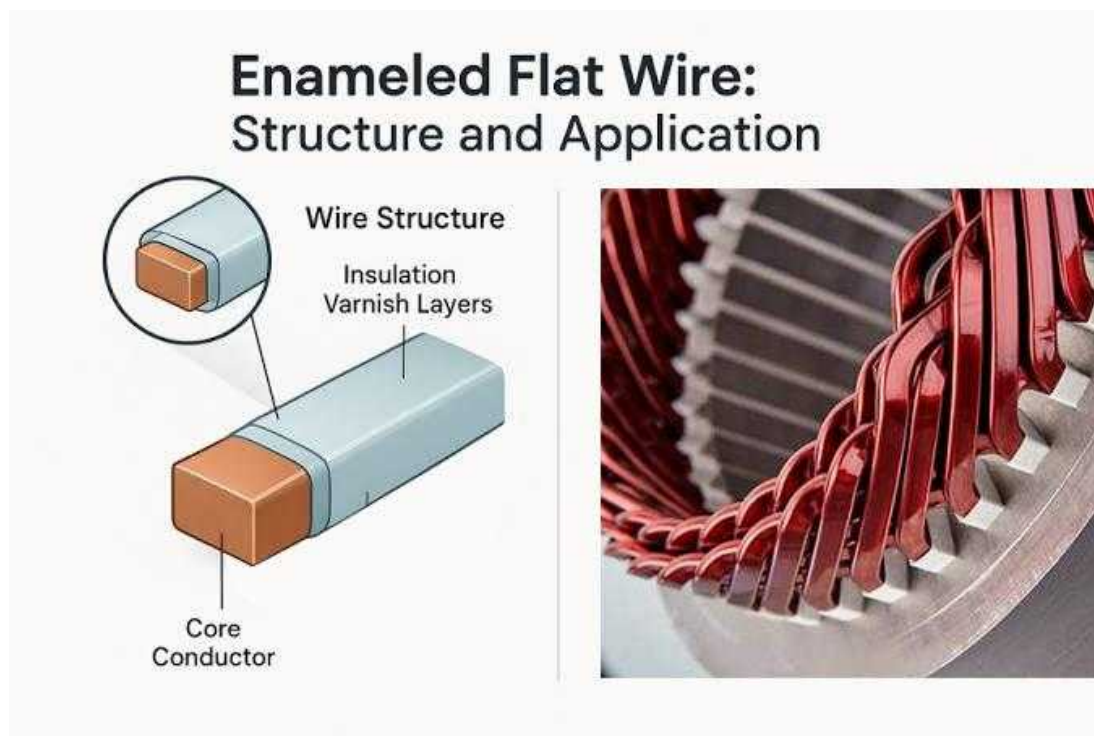
Global
Supply

Hair-PIN Motor Flat Winding Wire

Zhengzhou LP Industry CO.,LTD.

Hairpin Winding Wire Introduce

Hairpin Motor Flat Winding Wire is a rectangular enameled copper conductor. It has been specially engineered for hairpin stator winding technology. Instead of winding any flexible round wire directly into the stator, separate one piece of straight rectangular conductor is shape formed into hairpin shape, inserted into the slot of the stator, rotated then laser welded. This may be carried out until the full windings may be formed. Hairpin Motor bars these enameled copper wire bars are also called as hairpins.

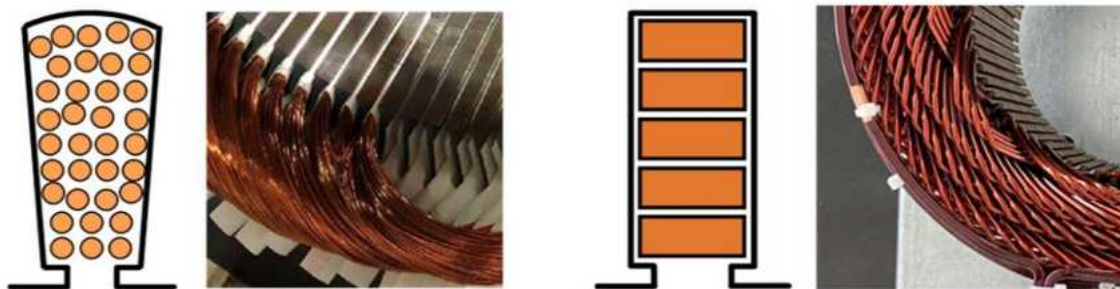


LP Industry Hairpin Motor flat Winding Wire Data

Name	Hair-PIN Motor Flat Winding Wire
Conductor	Copper and Aluminum
Single wire Dimension	Thickness (a): 0.5mm – 5.6 mm Width(b): 2.0 mm -12 mm
Thermal Class (°C)	180(Class H), 200(Class C), 220(Class C+), 240(Class HC)
Standard	IEC, NEMA, JIS, GB, UL
Packing	Ply30kg-150kg ply-wood spool(250*400 / 250*500/ 250*600/ 250*730)
Application	Hair-PIN Motor

Benefits

An inherent advantage of flat wire winding is its high slot fill factor and much reduced DC Joule losses. Through careful wire size selection as well as connection layout design, flat wire winding can also be advantageous in AC Joule loss mitigation for high-speed applications. Moreover, with significantly improved consistency of conductor placement both in and out of stator slots, intense cooling techniques can be applied, allowing for significantly higher current density / loading. Preformed flat wire also offers better insulation reliability than stranded round wire, due to its uniform geometry and parallel conductor surfaces, which mitigates local electric field peaks and reduces the risk of partial discharge. Its highly automated manufacturing process further ensures consistent thermal and mechanical performance by minimizing stress/thermal concentrations, which further improves the insulation performance.



(a) stranded winding with round wire (b) preformed winding with flat wire

Application

For high-speed, high power applications, multi-layer hairpin windings have been distinguished and widely applied in electric vehicle (EV) sector, as a key enabler of boosting performance of EV traction motors. Moreover, along with improved maturity, hairpin winding technology is being extended from automotive to aerospace application sector.

lp industry wire

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