

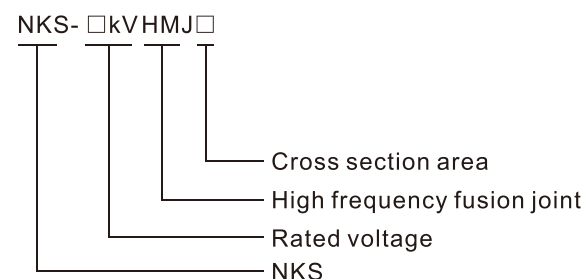
## Overview

With the development of the power grid and the transformation of urban and rural areas, the proportion of power cables in the power grid lines continues to rise, and the waterproof and insulation problems of cable connections have become increasingly prominent. Influence by the quality of cable accessories, installation and construction, internal creepage or radial breakdown accidents in cable splices occur from time to time. Hence, the emergence of a construction technology (HMJ cable welding technology) that is closer to restoring the cable structure and professional construction and installation personnel have effectively reduced operational risks and greatly improved the level of production and electricity consumption.

## Features

- ◆ It is suitable for splicing of 8.7/15kV, 12/20kV, 18/30kV, 21/35kV,26/35kV single-core/three-core XLPE power cables.
- ◆ Integrally welded conductor, balanced carrying capacity, the mechanical strength is equivalent to that of original cable, better than the traditional crimping method.
- ◆ The the inner shielding restoration is integrated with that of original cable, electric field is uniform and electrical stress is eliminated.
- ◆ The recovery of each layer is integrated with original cable, without gaps and partial discharge value is extremely small, it does not completely depend on external waterproofing.
- ◆ Install heat-shrinkable tubing to avoid exposure and aging of the waterproof tape.

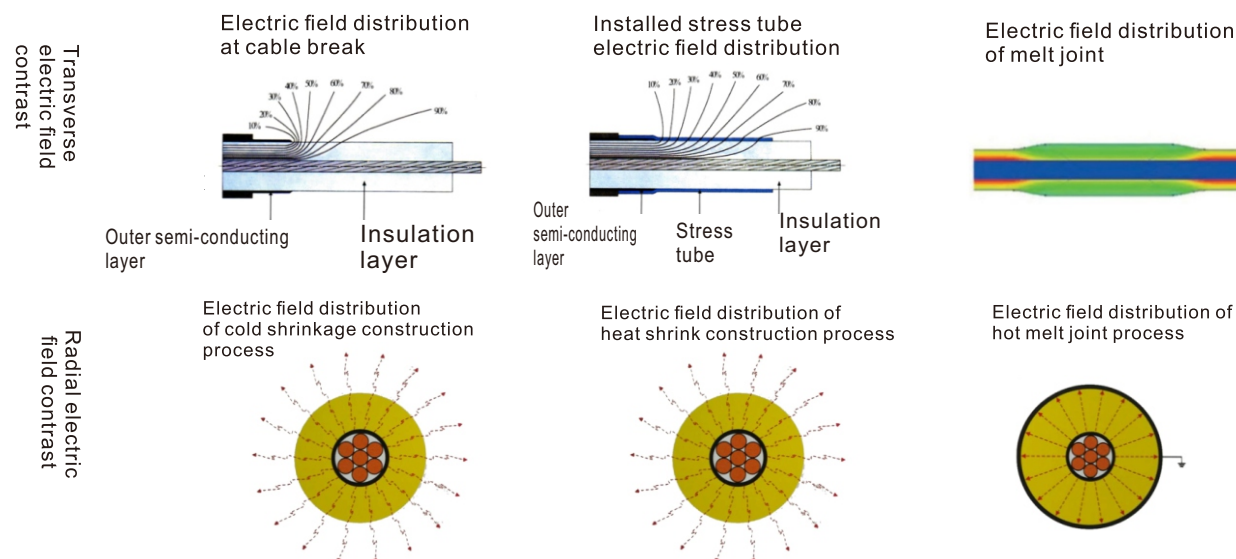
## Model



NO.	Model	Item Code
1	NKS-15/HMJ	97001CPS-SZ
2	NKS-20/HMJ	97002CPS-SZ
3	NKS-30/HMJ	97003CPS-SZ
4	NKS-35/HMJ	97004CPS-SZ



## Comparison of electric field distribution



## Comparison between HMJ and traditional splicing

Comparision	Premoulded, heat shrink, cold shrink		Hot Melt Joint	
	Technology	Problem	Technology	Advantage
Design Basis	Analog recover cable structure	Different manufacturers have different structural design levels	True restoration cable structure	Balanced electric field distribution, high reliability
Core connection	Crimp or screw mount	Poor crimping tube material, crimping sharp corners, deformation of the current-carrying section, and deformity of the electric field at the connection	Fully welded,equal diameter recovery	The mechanical properties, current carrying capacity, resistance value, electric field distribution, etc. are the same as those of the parent cable
Inner shield	Stress tape premoulded	The deviation of raw materials and installation dimensions leads to shielding failure and breakdown accidents	Fully lapped and fused to the cable inner shield	Equivalent and balanced evacuation electric field stress as parent cable
Main insulation	High dielectric material	Differences in raw materials, production levels, and rebound holding forces lead to breakdown accidents	Integrated welding with parent cable	No air gap, no electrical stress, waterproof and moisture-proof
Outer shield	Spray or conductive adhesive	Different material resistances, different levels of layer-to-layer adhesion	Special semi-conductive ink + high-quality semi-conductive tape	Enhance shielding effect
Waterproof layer	Wrapping sealant + waterproof composite tape	Sealants and waterproof tapes are susceptible to moisture due to ozone aging	Waterproof tape + heat shrink tube	Heat shrink tubing protects and isolates the inner waterproof tape
Armor layer	Wrapping armor tape	The mesh structure exposes the inner waterproof glue and waterproof tape	Wrapping armor tape	The inner layer has a heat-shrinkable sheath to avoid exposure

## Electrical Performance

8.7/15kV hot melt joint parameters	
Rated voltage	15kV
Withstand voltage (AC)	39kV/5min
Partial discharge	15kV<10pc
Lightning impact voltage	105kV (±10times)
DC withstand voltage	52kV
Constant voltage load cycle test in air	23kV, 60 cycles in total
Indoor termination humidity test	11kV,300h
Outdoor termination salt spray test	11kV,1000h
12/20kV hot melt joint parameters	
Rated voltage	20kV
Withstand voltage (AC)	54kV/5min
Partial discharge	20kV<10pc
Lightning impact voltage	125kV (±10times)
Constant voltage load cycle test in air	30kV,30 cycles in total
18/30kV hot melt joint parameters	
Rated voltage	30kV
Withstand voltage (AC)	81kV/5min
Partial discharge	30kV<10pc
Lightning impact voltage	170kV (±10times)
Constant voltage load cycle test in air	45kV, 30 cycles in total
26/35kV hot melt joint parameters	
Rated voltage	35kV
Withstand voltage (AC)	117kV/5min
Partial discharge	45kV<10pc
Lightning impact voltage	200kV (10±times)
Constant voltage load cycle test in air	65kV, 30 cycles in total
Constant voltage load cycle test under water	65kV,30 cycles in total