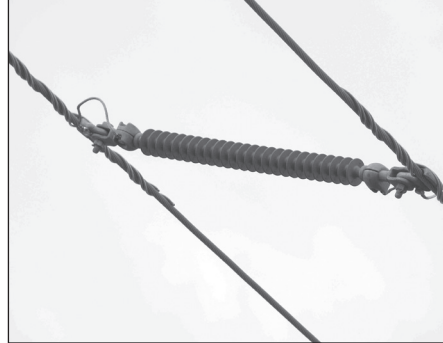


Interphase Spacers

NOMENCLATURE



HELIX/Hydro-Québec
Licensed Technology

GENERAL INFORMATION

In an effort to improve overall system reliability in their network, Hydro-Québec mandated the Hydro-Québec Research Institute and HELIX (acquired by PLP in February 2014) to develop an interphase spacer capable to withstand severe compressive forces. In 2000, the behavior of the interphase spacer was studied over 1,000 hours. The test included sophisticated monitoring on Hydro-Québec's mechanical testing line, where plastic devices were attached to conductors artificially creating ice profiles that triggered oscillations. The testing was successful as no buckling was recorded, in spite of significant galloping with peak-to-peak amplitudes of about 5 meters.

Since 2002, thousands of HELIX/HQ interphase have been installed for electrical tensions from 25 kV to 315 kV and with phase distances of up to 8.3 m.

The Hydro-Québec interphase spacer does not eliminate galloping; it successfully protects valuable transmission equipment by reducing the oscillation amplitudes induced by galloping or ice shedding, maintaining critical phase distances to avoid flashovers and withstanding important dynamic loads in both tension and compression.

FEATURES AND BENEFITS

Hydro-Québec supplied by PLP offers the following unique design features:

Adjustable length: on most models offered, the spacer length can be adjusted in the field by cutting the aluminium tube and installing the end fitting using a standard hydraulic compression die.

Dedicated clamping system: a special system of helical rod conductor clamps (ET-type clamps) has been developed for use with the HELIX/Hydro-Québec interphase spacer, which is quick to install, and ensures a strong, permanent clamping force while protecting the conductor against fatigue damage.

Modular system: HELIX/Hydro-Québec interphase spacer systems can be tailored to almost any specific project requirement. Clamping systems, electrical characteristics and material properties can be modified on-demand.

Resistance to compressive loads: This interphase spacer system has been designed and tested to resist to significant levels of compressive loads, known to be induced by galloping and ice shedding oscillations.

TECHNICAL SUPPORT

Interphase spacers are customized for every applications. Your PLP representative will provide complete support for model selection and placement instructions based on the particular line and environmental parameters of your project.