



## **MACLEAN POWER SYSTEMS**

A MacLean-Fogg Company

*Reliable • Bethea • Continental • Hydrocom • Precision*

### **Application Advisory**

Subject: Use of StrandVise® Products in Rope and Cable Challenge Course Applications  
From: MacLean Power Systems' Connector Engineering  
Date: 27, November 2000

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The StrandVise® line of automatic connectors is manufactured and marketed by MacLean Power Systems. These products were first developed in the 1930's to serve the needs of the electric power utility and telecommunications markets. Even today these same customers account for the vast majority of StrandVise® sales.

These utility companies use our StrandVise® products for a variety of applications including securing guying wires and supporting aerial messenger wire. However, each of their StrandVise® applications has a number of important common elements.

- Their StrandVise® installers are well trained and equipped.
- The wire/cable being used is galvanized steel strand that is typically used for guy or messenger applications.
- The tension on the installed wire is significant and generally more than 40% of the rated strength of the cable.
- Once installed and properly tensioned, the StrandVise® is under a near constant, static load.

Over the past few years, we have become extremely concerned about the application of StrandVise® connectors in rope and cable challenge courses. Specifically, we are concerned with the StrandVise® tensioning procedure and the dynamic loads that can occur after installation.

The integrity of any StrandVise® installation is ultimately dependent on the skill and judgement of the installer. Because of the relative lack of skill on the part of the rope course installers, the use of rudimentary tools and the diversity of challenge course applications, it is apparent that the as-installed StrandVise® tension could vary considerably.

This combination of questionable installation tension and the abrupt change in tension that will occur when a course is in use make cable challenge course a risky application for which our products were neither contemplated, designed nor intended. In addition, the potential for damaging a StrandVise® by releasing tension and then reinstalling and re-tensioning the connector a number of times as a challenge course layout is reconfigured makes these applications particularly risky.

We urge you and your organization to discontinue promoting and using StrandVise® connectors for cable challenge courses and to take prompt action to adopt a more suitable cable restraining mechanism in place of the StrandVise® connectors that are now being used without backup devices in these courses.