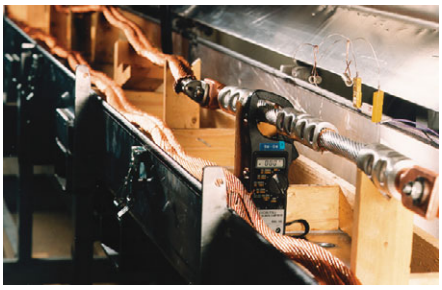
What´s special with Traction applications?

During several years Elpress has had contact with manufacturers of traction units, like trains, trams and such, or with their sub-suppliers of cable assemblies. In these contacts it has been more and more apparent that there is quite a spectrum of different requirements that is regarded highly relevant to the use in rolling stock.

- First of all comes of course the requirements of electrical properties and mainly the current carrying capacity. These requirements must be seen in the light of high currents and current peaks in lowest possible conductor areas and the requirements of flexible conductors.
- Traction applications may include tough corrosion resistance requirements.
- Vibrations as well as static loads may occur and be of the most different types. The connection must stand these loads.

Elpress has gone through which tests that may be used to verify that our terminals and connectors together with our crimp systems meet the Traction application requirements. Together with customers the following test standards have been regarded relevant:

- Electrical properties - IEC61238-1, Class A. This is a relatively new standard corresponding to or in many cases superceding most earlier European standards.
- Environmental requirements - DIN V 40 046, part 37. The choosen part of this German standard states a very tough test where hydrogen sulphide is used as the aggressive substance.
- Static loads normally form part of established electrical tests and this is the case also in the IEC-Standard referred to above. The load limits are often rather low but in the Swedish Standard SEN 245010 relatively high load limits are given and these are therefore used here.
- Vibration tests are hard to carry through in a representative manner. This is due to the very different load patterns that every build-in case may give. A European test for railway applications - EN 50155 - has been used in applicable parts.



Crimping is a System Technology. This means that it is the combination of a choosen terminal or connector and a matching crimp tool, all determined by the specific conductor that will result in the desired connection properties.

Crimping with the DUAL System

This System has been developed to meet the hard combined requirements from manufacturers with tough applications with the best result.
The DUAL technology combines the desired properties from an optimal hexagonal crimp with those of a limited indent crimp.
This results in tight contact surfaces without damage to the conductor strands.

We call this technology, for which patent is applied, the Elpress DUAL System where the name points at split crimp sequence that starts with a hexagonal crimp and, without separation of the dies, is finished by an additional indent crimp.
The DUAL Crimp is performed by the crimp heads DV1300 and DV1300C or battery powered crimp tool PVL1300DUAL, using the crimp dies DBxx available from 10 to 300 mm². The crimp heads are powered by the normal Elpress hydraulic pumps P4000 (foot pump), PS710 (mains and battery operated hydraulic pump) or P1000 (mains powered pump).