Crimping - what and why

Crimping is a method to create electrical connections, by a terminal being crimped into a permanent deformation around a conductor, and with that good electrical and mechanical properties are attained. A crimping tool is used to fix spades, splices and the like onto a cable's core.

Technique

The method was developed primarily as an alternative to soldering. The crimping technique has become extremely wide spread within today's industry. Its popularity is based on the quality no longer being dependent on the operator but the quality of the crimping equipment. Crimping is a technique where the characteristics of the crimped connection are, to a significant degree, dependent on how large a reduction of the crimped material (cable + ferrule/terminal) that the crimping tool gives. This places large demands on the crimping tool and its accuracy. The terminal + crimping tool must match the conductor in question.

Today's crimping tools are equipped with ratchet mechanisms, this means the crimping action is always completed, and they are also equipped with a compound action for low hand force. However, it should be noted that the quality and durability of the connection is fully dependent on the quality of the crimping tool. The choice of tool is therefore very important.

Naturally there are alternatives within different application areas:

Thermal methods	**Mechanical methods**
soldering	screws
welding	wire wrap
	slot connections, etc

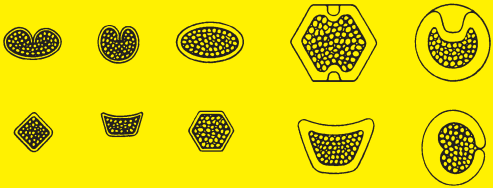
Crimping offers many advantages:

- speed
- reliability
- easy and availability
- low unit cost
- no heat
- no chemicals
- established characteristic standards
- self-testing
- very large application area

Different types of crimping

Depending on the conductor material, connection design, application requirements many different forms and design of crimps are used and with that different types of tools. Immense resources are employed to test forms and components. Make sure you benefit from these efforts in your work.

Examples: of different types of crimping:



Coaxial connections

With coaxial cable, crimping is governed more by different standards, among others, MIL, which states the size of cable and connector. This provides clear instructions about the size of crimping tool's opening. However, in this sector the demands on correctly produced crimping connections are extremely high. As coax is associated with very low voltages and currents, it is often enough with a relatively small crimping error to produce high contact resistance in the crimps and with that a source of error in the coax-system. Therefore ensure you only use quality tools.