



### A.10.2. Les polyoléfines dans l'industrie des fils et câbles : affectées ou non par les questions d'environnement ?

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#### Résumé

Concernant les déchets de la Construction et du domaine de l'Electricité, l'exposé esquisse les évolutions réglementaires de la CEE, et leurs possibles implications dans l'industrie du câble.

Des statistiques sur les quantités de déchets sont données ainsi qu'une vue d'ensemble des filières de récupération. Des éléments qualitatifs et quantitatifs sur la récupération sont donnés.

Les performances des polyoléfines du point de vue de l'environnement sont discutées et une stratégie pour le futur est proposée.

#### Introduction

The polyolefins used in the cable industry represent one of the most long life applications of plastics. One could question, whether the environmental pressure would apply to this application area - or are technical performance and cost all that count?

We are moving into a new kind of society - a society where the talk about "Sustainable Development" and "Cradle to grave" type of thinking is being transformed into laws such as the German Kreislaufwirtschaft und Abfallgesetz and the Swedish Kretsloppsförordningen, both meaning the Recycling Society based on Life Cycle Management. This environmental focus on all activities is here to stay, in technical terms this process is irreversible.

For the manufacturing industry it means that all products have to be evaluated from an environmental perspective. The materials used have to be environmentally sound and the recovery or disposal of a used product managed. In this respect short life products, especially one way packaging have been targeted, once the EU Packaging Directive has been approved the focus has been put on other priority waste streams, such as Building & Construction, Electrical & Electronics and Automotive. In the same order the Commission has given the mandate respectively to Germany, Italy and France to prepare suggestions for waste Directives.

This will inevitably mean that the Wire & Cable industry will have to take these environmental aspects into consideration, although the waste generation in the sector is relatively small at this point in time.

### A.10.2. Polyolefins in the wire and cable industry - Affected or not by the environmental trends ?

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#### Abstract

The paper outlines the legislative developments in Construction and Electrical waste regulation in the EU and its possible implication to the W&C industry. Waste statistics are given together with an overview of different recovery options. Qualitative and quantitative data on recovery are given. The overall environmental performance of polyolefins is discussed and a future strategy suggested.

#### Waste arisings and the Wire and Cable industry

In 1992 the total plastics consumption of Cables in Building and Construction was 594.000 tonnes, the most (62 %) being PVC, the remainder PE, equaling 226.000 tonnes in Western Europe (1). The waste generation was only 106.000 tonnes, which has to be put into relation to the 15 million tonnes of plastics waste in total generated annually in Western Europe. This means that the waste generation is 18 % compared to the material put on the market. It can also be put into the context of the total material usage in the Building & Construction sector, which was 674 million tonnes in 1992 out of which plastics were 0.7 % or 5 million tonnes.

By the year 2010 the plastics waste from cables is expected to double, and constitute 226.000 tonnes. This is still a minor portion compared to all plastic waste in the construction sector.

It is important to note that used cables are recovered primarily due to their inherent metal value, i.e. copper and aluminum. Therefore plastics waste has been of secondary importance, and often considered as a true waste problem, the tonnage being approximately the same as for metals recovered. In addition the quality requirements for high voltage cables leads to a fairly high rate (5 %) of plastics waste in the production phase (2).

#### Recovery options for plastics waste

In more general terms, the following options for recovery of plastics waste are available:

- Mechanical recycling, meaning that the material is recovered and reused in the same application or for other purposes. This approach is used when the material is clean and preferably uncontaminated with other materials and polymers. By mechanical recycling the inherent value of the material is reclaimed. This can in some cases be applied to PVC and PE from cables, especially production scrap. Depending on the reclamation process, heavy metals and other contaminants can make recycling difficult. Crosslinked XLPE material is difficult to recycle, but as finely ground it can be used as a filler. Recycling techniques and processes are available, but practical activity is scarce.