

## **The TEPPFA Voluntary Commitment for Recycling and Lead replacement**

Roel van't Veer - TEPPFA

The paper will explain that the members of TEPPFA unanimously agreed to a Voluntary Commitment to collect and recycle all plastics pipe waste and to replace lead as a stabiliser for PVC and as a pigment substance.

TEPPFA also participates in the PVC – Voluntary Commitment by committing to collect and recycle 50% of the available collectable PVC pipe waste by 2005 and to replace 75% of the lead stabilisers by 2010.

# **THE TEPPFA VOLUNTARY COMMITMENT FOR RECYCLING AND LEAD REPLACEMENT**

## **Roel van't Veer - TEPPFA (The European Plastic Pipes and Fittings Association).**

TEPPFA is the European Plastic Pipes and Fittings Association and represents – through 11 Company Members and 14 National Association Members – a sales volume of 3 million tons and 10 billion Euro per year, with 30.000 employees.

### **THE TEPPFA COLLECTION AND RECYCLING SCHEME**

Plastic pipe systems have proved to be very reliable, easy to install and leakfree with an expected lifetime of 50 to over 100 years. No substances are leaching into the environment and therefore plastic pipe systems could, after a long and useful life, be landfilled or incinerated without any problem. In order to deal with the increasing political desire to reduce waste and to support sustainable development by recycling of materials as far as possible, TEPPFA members have decided to set up collection and recycling systems for their products. As part of the PVC Industry Voluntary Commitment the TEPPFA General Assembly decided unanimously in the year 2000 to commit to recycle 50% of the available collectable plastic pipe system waste in 2005.

Contrary to other PVC converters who made recycling commitments TEPPFA members decided to collect and recycle all plastic pipe system waste, which means that next to PVC also Polyethylene, Polypropylene and other thermoplastics used for pipe systems are being collected, sorted and as far as possible recycled back into new pipe systems. First of all this was decided to underline the contribution to sustainable development by all plastic pipe systems. Secondly, practical experience has shown that waste owners do not know the difference between PVC pipe system waste and other plastics pipe system waste. At present, PVC represents circa 2/3 of the collection but the share of other plastics has been increasing.

### **VOLUMES**

In the year 2002, more than 10 million kilo's of post use plastic pipe system waste was recycled (30% more than the previous year). The PVC recyclate is mainly used to produce multilayer non-pressure sewer systems with the same high quality as the original ones. The other plastic recyclates are mainly used to produce cable protection pipes. Research has shown that plastic pipe systems can be recycled at least 7 times without unacceptable loss of quality. This means that with an expected useful leakfree life of 50 – 100 years one kilo of plastics for pipe systems has a life expectancy of hundreds of years. If at some moment recycling would no longer be possible, the energy content can be made available in a proper incinerator with energy recovery. Due to the young age of our industry and the long life of our products, the volume of post use waste is still relatively small but we expect this will increase gradually in the coming decades. We started our collection/recycling system already now to gain experience and to be ready for bigger volumes in the future.

## **COLLECTION**

The key to the success of a recycling system is the collection system, to provide a continuous waste stream at lowest possible costs.

The TEPPFA collection/recycling system is organised by TEPPFA's National Association members, as they are best aware of local market structures and collection possibilities. Almost all EU member states have a TEPPFA National Association and almost all are involved in this project.

Before we start in any country, we do a waste availability study. Such a study gives a rough idea about the volume of available plastic pipe system waste (special statistics are not available), geographical spread, market sectors and indications how the waste could best be collected. After such a waste availability study, a pilot collection scheme is set up to verify the conclusions.

In the different EU member states different collection schemes have been developed, to achieve a good volume/cost ratio.

Collection can take place at sales depots of our members, at municipal waste parcs, at utilities companies, construction- and demolition companies, building merchants and DIY chains. Collection means are 30 m<sup>3</sup> containers, open skips, meshed wire (foldable) boxes, big bags etc. Collection means can be owned by our National Associations or hired from third parties. It is extremely important to regularly inform waste owners about the collection/recycling scheme, also to avoid a too high percentage of non-plastics in the collection system.

## **SORTING**

After collection and transport to a central place (mostly the yards of the recycling companies), the plastic pipe system waste is sorted in PVC and other plastics. This is a manual process during which also non-plastics are removed. Mechanical sorting, which has high capital costs, is being investigated but is too expensive with the volumes at present.

## **RECYCLING**

After sorting, the plastic pipe waste is grinded and metals (ferro and non-ferro) are mechanically separated out. Dirt, rubberrings etc. are removed by sieves. As a last step the recycle is often micronised in order to facilitate later extrusion into (multilayer) pipe.

Most TEPPFA National Association members use professional third party recycling companies. The recyclates are mostly bought and used by the members of the National Association, except in some countries where local standards do not yet allow the use of recyclates. The demand for recyclates by plastic pipe system manufacturers is higher than the availability.

## **COSTS**

The cost of collection and transport varies between Euro 0,10 and 0,35/kg, depending on population/industry density in any given country, geographical distances and collection

volumes. The volumes today and their geographically diverse points of collection mean that only a few countries are close to a situation where the sales value of the recyclates fully covers the cost of collection/transport/sorting/recycling. The sales value of the recyclates is app. 70% (best quality) of the price of corresponding new plastics. This means that sales prices of recyclates vary in the same way as the volatile prices of new plastics, which can create problems for recyclers.

### **WAY FORWARD**

We expect that the volume of collected and recycled plastic pipe system waste will continue to increase in the coming decades. Even though our collection and recycling systems operate at a financial loss we are proud of our Voluntary Commitment. Because it is Voluntary we will continue to support it, even without legal pressure. Also our colleagues from for instance the plastic window profile branch (EPPA), the other plastic profiles, the corrugated plastic roofing sheets have recognised the value for future generations of the recycling of plastics and we are actively working together to join our collection and recycling schemes to improve cost effectiveness.