

LIFE PROJECT "CALINDIS"

A shoe is formed by a series of components made in materials, with different chemical compositions and physical properties, which have to be joined together. This is the reason why throughout the footwear manufacturing process there are many operations that require the use of adhesives and surface treatments, which are generally solvent based, which implies environmental problems and damages to worker's health. Currently, there are alternatives to the use of these products in certain operations. However, manufacturers do not normally know about their existence or they reject them, most of the time due to a lack of information.

The objective of project "Calsindis" is to provide the industries of this sector with a technology that allows a complete elimination of conventional solvent-based bonding operations from footwear manufacturing, by replacing the products used in these operations with others, such as water-based adhesives and others, which have suitable characteristics for each operation within the footwear manufacturing process and meet quality requirements.

By eliminating the solvents used in the bonding operations in the whole manufacturing process, the emission of VOCs into the environment in this industrial sector will be considerably reduced, contributing to the compliance with several European Directives relating to Environment and occupational health.

During the development of this project, the following activities have been carried out in order to develop the foreseen working plan:

- Establishment of characteristics and requirements to be demanded to solvent-free adhesives and treatments.
- Solvent-free adhesives, either manufactured or marketed by the adhesive-manufacturer partner, have been characterised; suitability tests on the proposed alternative adhesives and treatments have been carried out, and some modifications in the adhesives formulation have been made in order to adapt them to the different bonding operations in footwear manufacturing.
- Selection of suitable solvent-free adhesives for each bonding operation in footwear manufacturing.
- Implementation of a solvent-free-bonding manufacturing line of PIKOLINO'S footwear, in which every adhesive has been substituted by their solvent-free alternatives.
- The selected adhesives have been assessed through footwear manufacturing trials and further quality control tests on the manufactured shoes.
- Visits to some other companies have been made, these companies being interested in the use of waterborne adhesives in footwear manufacturing.
- Elaboration of posters, leaflets and brochures on the project, as well as a video-CD, in Spanish with subtitles in English, for the dissemination of the project. These dissemination items have been used in several national and international trade fairs.
- Several dissemination activities have been carried out, such as the showing of the video on the project during the European Science and Technology Week, courses for footwear manufacturers, publication of press-releases, presentation of a conference during the V Conferences on Adhesion and Adhesives, etc.
- Celebration of a Seminar for the dissemination of the project results.