In line in vacuum polymeric coatings, in particular acrylates, have received a lot of attention over the years. Despite this, and numerous papers and patents, little or no commercialisation of such processes has been forthcoming. In this paper Camvac presents on their development of their IVC (In Vacuo Coating) process to commercial scale and will highlight some of the challenges, frustrations and breakthroughs of the technology. Additionally, they will present on why such processes are valuable and how they can improve the performance both of the barrier and other characteristics of metallised barrier materials.

Acrylate Chemistries:
Despite fortuitously falling upon a chemistry that works early in their development, Camvac have looked at hundreds of acrylate mixes for their IVC process. The work has included hundreds of pilot scale trials, over a thousand barrier tests and thousands of adhesion tests. Through this work they have determined some of the key characteristics required for in vacuum polymeric coatings. Although their work has led them only a short distance from their early discovery, it has allowed valuable understanding of the types of chemistry required for such coatings to work in final applications.

Problems Overcome:
Camvac presents on some of the key issues they have faced during the development of their IVC process and summarise how these have been overcome through either technical solutions or clever design.

Unit Design:
The evolution of the IVC unit design is outlined in brief describing: a few of the key features of each design; limitations at each stage; how they evolved; and some of the key milestones each achieved.

Benefits:
Camvac presents on the barrier improvements that can be achieved using IVC structures. The performance of laminates made using IVC materials and some of the other advantages such as: Improved adhesion on poor adhesion substrates and improved barrier retention in challenging applications such as retort.