This paper, as the title underlines, will be focused on flame treatment technology applications for the converting industry.

After a brief introduction regarding company history and its main features, this presentation will be focused on flame treatment applications in extrusion coating and in polymer film lamination.

Firstly will be then analysed a typical juice box structure and how flame treatment technology can be used and what are the advantages in using this technology for treating the different layers forming the box itself.

A typical flame treatment installation on an extrusion coating line will be the analysed and characterized, as well as benefits coming from the application of flame on extrusion coating will be presented.

Presentation focus will then be moved to the characteristics and advantages of using flame treatment for film surface treatment.
In particular a comparison will be run with other surface treatment technologies (corona surface treatment and atmospheric plasma treatment) in terms of:

- surface energy after treatment;
- surface oxidation mechanisms and chemical species involved;
- quantity of oxygen on treated surface (oxidation level);
- quality of oxygen on treated surface;
- adhesion;
- printability/print quality.

![Oxygen Level vs Power Graph](image)

- Threshold for formation of LMWOM in literature = 8.3 Wmin/m²
- Anchored oxygen level = 4.8%
- Threshold for formation of LMWOM = 9.8 Wmin/m²

![Surface Images](image)
esseCI flame treater system for the converting industry will be then introduced through photographs, drawings, electrical schemes, to give a complete view and comprehension of system components and working mode. Part of the presentation will in fact be dedicated to the system operator panel main pages description. Energy balance as well as gas consumption data will be finally presented and analysed.