

# BUBBLE MAILERS AND ROLLS

*As a leader in the North American packaging market for over 40 years, IVEX offers a wide range of specialized protective packaging products designed for consumers as well as companies wanting to package, protect, and ship their goods.*

## Protective packaging

*IVEX produces many types of products, including bubble mailers and bubble rolls. These two types of products are made exclusively of low-density polyethylene (LDPE). Apart from the air present in the bubbles, the only ingredients other than LDPE are the glue and the inks used in making the mailers.*

*LDPE is an ethylene polymer identified with code 4 of the SPI (Society of the Plastics Industry) classification system. Although it is non-compostable (LDPE is particularly stable), this material is 100% recyclable. The mailers and rolls can therefore be made from either new resin or recycled LDPE.*

**IVEX LDPE products are 100% recyclable and can be made of recycled materials.**

*The raw materials IVEX uses to manufacture its LDPE products are purchased from suppliers that integrate materials from pre-and post-consumer recycling channels into their manufacturing procedures.*

*To facilitate the recycling of its LDPE products once they've reached the end of their lifecycle, IVEX has chosen to develop mono-material products. Having products made from just one raw material provides a very important advantage when it comes time for recycling: since there is no need to sort or separate any secondary packaging, users can put the bubble mailers or bubble rolls directly into a recycling bin without, for example, having to separate the LDPE from the various non-recyclable materials.*



The IVEX logo, featuring the word "IVEX" in white, lowercase letters with a stylized 'V' and 'X', set against a red oval background.

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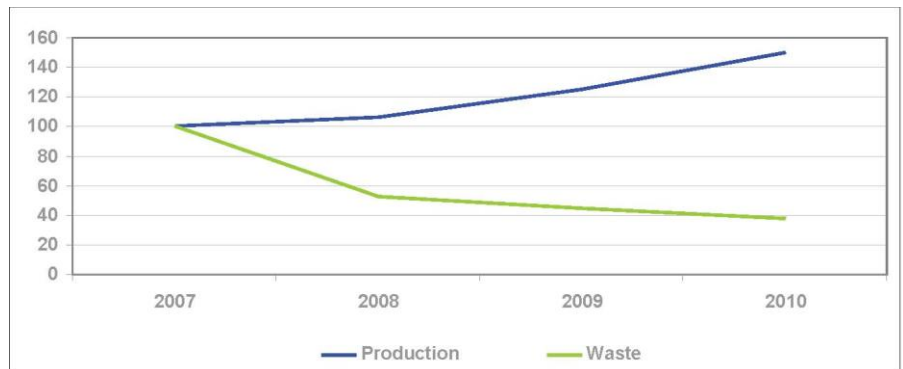
## Less waste means less to recycle

**Recycling pre- and post-consumer waste is good for the environment. On the basis of the theory that the best waste is waste that is never produced, IVEX strives to reduce its production waste as much as possible.**

**In order to do this, IVEX has optimized its production and quality management systems to drastically reduce waste.**

**This achievement is illustrated by the following curves representing bubble mailer production over four consecutive years (base value of 100 in 2007, the year bubble mailer production began).**

**The release rate for both bubble roll production and**



**bubble mailer production was only 5.6% for the year 2009.**

## Pre-consumer recycling

**LDPE production waste is initially stored at the plant until it is taken care of by a specialized recycling firm.**

**Since 2009, 100% of the LDPE production waste at IVEX has been recycled and introduced back into the market to be transformed by other businesses.**



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## A product that requires little glue

**The main ingredients used in manufacturing the bubble mailers and rolls are low-density polyethylene (LDPE) and air. Minimal quantities of ink and glue are added to these to make the bubble mailers.**

**One of the reasons why only a small amount of adhesive is required to make the mailers is that they are heat-sealed rather than being glued with a chemical product. Besides saving on resources, this manufacturing technique guarantees, in particular, a great degree of mechanical reliability and ensures the mailers are properly sealed.**

**The only glue used in manufacturing the mailers is that which is applied on the top flap to allow the user to close the product before mailing it.**

## Water consumption

**As with the glue, only a small amount of water is used in making the LDPE products. It is not used in the process to make the rolls, and as the mailers are made using pre-printed LDPE rolls, there is no water used in their production chain.**



**IVEX**

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## Carbon emissions

*The equipment used by IVEX to manufacture its bubble mailers and rolls all run on electricity. Average annual consumption is 1.4 MWh. As this electricity is provided entirely by Hydro-Québec, it is considered by Quebec's Ministry of the Environment, Sustainable Development and Parks to be a renewable energy that does not emit a significant amount of greenhouse gases (GHG).*

*The majority of the GHG emissions come from heating the facilities and using fuel to transport the finished products.*

*Over the past few years, the average annual GHG emissions stemming from natural gas consumption represent approximately 34 tonnes CO<sub>2</sub> equivalent, while the emissions stemming from transporting the finished products represent 331 tonnes CO<sub>2</sub> equivalent.*

*The carbon emissions related to transporting the finished products have been dramatically reduced since 2008, when IVEX grouped all of its bubble roll production equipment within the same plant. As a result, instead of manufacturing a material made almost entirely out of air in one plant and transporting it to another to be developed, the bubble rolls are manufactured and transformed in the same plant.*

*In total, our average annual emissions represent 365 tonnes CO<sub>2</sub> equivalent for the bubble mailers and rolls, which is equal to the GHG emissions of ten average Canadian households.*

