Number/code: OM/PR8

Title: Recycled choreography products

Guidelines section:

	Governance	X	Operational management

	Context of the event	X	*Procurement*
	Event		*Mobility and logistics*
	Stadium management		

Description:

Given the large amount of waste generated by the supporters' choreography at the end of football matches, there is the opportunity to reduce the environmental impact of the choreography by using accessories made of recycled and recyclable plastics (recycled LDPE). Recycled polyethylene is mainly obtained from processing waste of industrial products (e.g., plastic bags for the food sector) made of low-density polyethylene (LDPE), followed by adding a portion of virgin material in the mix. LDPE is a thermoplastic polymer made from the monomer ethylene and belonging to the polyolefins group.

Environmental benefits:

The use of recycled choreography products enables organisations to reduce their environmental impact in terms of material efficiency. In fact, the regenerated polyethylene used in the manufacturing of the flags is both recycled and recyclable, after disposing of it in the appropriate waste stream.

Economic benefits:

Price and performance of choreography items made of recycled materials are equally comparable to choreography items made of virgin materials. The price of a single flag was €0.08.

Applicability and replicability potential

The pilot test is highly replicable, and can be extrapolated to similar practices and procurement contracts for promotional material, merchandise, choreography products.

Source/Case study

LIFE TACKLE's pilot test at Paolo Mazza Stadium, Ferrara

The first pilot action within the TACKLE project undertaken by *SPAL was the adoption of choreography made of recycled plastic instead of virgin plastic. A total of* **6,000 light blue and white flags (the team's colors) produced with recycled polyethylene** were purchased from a

supplier identified by the TACKLE team and displayed among fans during the “Serie A” match SPAL-Bologna that took place on January 25, 2020.

The environmental benefit of the pilot test was assessed by performing a LCA on the flags made of recycled polyethylene, especially focusing on the reduction of greenhouse gases (specifically CO2). Recycled polyethylene is mainly obtained from processing waste of industrial products (e.g. plastic bags for the food sector) made in low-density polyethylene (LDPE), then a portion of virgin material is added in the mix. LDPE is a thermoplastic polymer made from the monomer ethylene and belonging to the polyolefins group.

The size of each flag was 40 x 60 cm, with a weight of 39 grams and a thickness of 009 µm, which corresponded to a total of **234 kg of recycled polyethylene**. Producing 1 kg of recycled polyethylene corresponds to emission of 0.79 kg of CO2, against emissions of 2.78 kg of CO2 for producing 1 kg of virgin polyethylene. Accordingly, **each kilo of recycled polyethylene corresponds to savings of 2 kilos of CO2 equivalent**. Therefore, the analysis showed that **the use of six thousand flags made of recycled polyethylene resulted in a saving of 936 kilos of CO2, which can be compared to the emissions produced by heating a 60 squared-meters apartment for 23 days.** (sul mid term report c’è scritto 47 days??)

The economic costs of this practice is low (each flag costed € 0,08) and it can be easily replicated in every stadium. This practice also has an indirect economic benefit for those suppliers of packaging materials that offer recycled options.