Specifications for baled clear polyethylene (PE) film

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These generic specifications are for separating clear film (predominantly low density polyethylene (LDPE) pallet wrap) for the purposes of making polyethylene (PE) pellets to US and EU standards in Australia.

These specifications are voluntary and have been prepared to assist Australian primary sorters by providing recommendations for sorting, storage and transport.

It is acknowledged that some companies will be able to meet these various specifications and send high quality bales (with low contamination) direct to plastics reprocessors and others will need to send their baled plastics to other sites for further sorting. Companies sending baled plastics for further sorting may send substantially more mixed plastics than included in these specifications. All sorters should seek details from their customers on their specific requirements.

These specifications have been developed in consultation with experts in the sector based on national and international trends on markets, price, quality, equipment and processes. We acknowledge Plastics Recyclers Europe for the generic template, specifications from The Netherlands, and the contribution of Material Recovery Facility operators, plastics processors and other industry experts in helping prepare this generic specification.

Three streams of film: clear and coloured PE film, and other polymers

Flexible film can be complicated by the diversity of types. These specifications aim to make it easier. The most common coloured and printed films are agricultural wrap and consumer shrink packaging made of PE (LDPE, linear low density polyethylene (LLDPE) or high density polyethylene (HDPE)).

These types of PE are compatible and should be sorted into two streams: (1) coloured and printed and (2) clear. PE films carrying print, even if the base polymer is clear, should be mixed with coloured film; not with clear. The small fraction of other polymers such as PP blends should be kept separate, and these specifications do not cover that small proportion.

These specifications are for clear PE film. There are separate generic specifications for recovered [coloured/printed PE film](https://anzpacplasticspact.org.au/wp-content/uploads/2021/06/Specifications-for-baled-coloured-PE-film.docx) in this series.

PE packaging design

For PE film packaging design the following resources are available:

* [Quickstart Guide to Designing for Recyclability: Household Consumer Soft Plastics](https://documents.packagingcovenant.org.au/public-documents/Quickstart%20Guide%20-%20Designing%20for%20Recyclability;%20Household%20Consumer%20Soft%20Plastics)
* [Action Plan for Problematic and Unnecessary Single-Use Plastic Packaging](https://documents.packagingcovenant.org.au/public-documents/Action%20Plan%20for%20Problematic%20and%20Unnecessary%20Single-Use%20Plastic%20Packaging)
* [Sustainable Packaging Guidelines](https://documents.packagingcovenant.org.au/public-documents/Sustainable%20Packaging%20Guidelines%20(SPGs))
* [CEFLEX](https://ceflex.eu/)

Specifications for baled clear polyethylene (PE) film

Instruction: Enter responses into the middle column as appropriate to your operations, outputs and customers. Strike out any characteristics and descriptions that are not relevant.

|  |  |
| --- | --- |
| Supplier information | |
| Company name |  |
| Company address |  |
| Additional sorting information |  |
| Date |  |

|  |  |  |
| --- | --- | --- |
| Specifications for baled clear polyethylene (PE) film | | |
|  | Enter data & response here | Good practice / description of options for responses |
| Characteristics | |  |
| Resin |  | LDPE, LLDPE or HDPE |
| Product |  | Stretch Film (<20µm), Shrink Film (<20µm), Pallet Covers (20µm< x < 90µm), Thin Film (<90µm), Thick Film (>90µm). |
| Original source of material |  | Commercial & Industrial, Household, Agricultural, Construction & Demolition, Transport, Retail, Others (specify). |
| Suitable applications |  | Film production – high grade.  Manufactured product – medium grade.  Cement and road base – low grade. |
| Colour | \_\_\_\_\_% mixed coloured;  \_\_\_\_\_% black/white agricultural film | Clear and translucent share vs coloured: 98/2%, 90/10%, 80/20%, 70/30%, 60/40% and 50/50%, 40/50%, 30/70%, 10/90% & 2/98%.  If you are able to specify the % mixed coloured and the % black/white agricultural film please do so. |
| LDPE content  (min %) |  | If known, show % of each type of PE in these, if not known state unknown. The mix is more likely to be known for pre-consumer (industrial) waste. |
| LLDPE content  (min %) |  |
| HDPE content  (min %) |  |
| Impurities | |  |
| Total impurities content  (max %) |  | 8% by weight. |
| Metals  (max %) |  | Metallic & mineral impurities with an item weight of >100g are not permitted.  Other metal articles <0.1% by weight. |
| Paper/Cardboard (max %) |  | < 1% by weight. |
| PVC  (max %) |  | < 1% by weight. |
| Rigids  (max %) |  | Dimensionally stable articles < 1% of weight. |
| Other plastics such as string / ropes, (max %) |  | < 2% by weight, incl PET, PP. |
| Moisture sources (max %) |  | <5% (Residue food, liquids, soil, other). |
| Prohibited impurities |  | Hazardous waste, medical waste, glass, organics, oxo or degradable material, food contamination, silicone, EPS & PUR. |
| Transport | |  |
| Transport/contract documents |  | The documents will be provided with the delivered bales. |
| Tracking |  | Delivery docket stating source, sorting plant, production date. |
| Truck load (min, tonne) |  | Tarpaulin truck 17-22 tonne load. Compacted consistent weight/size bales per delivery, ideally sized for pallets, double stacked across truck tray. |
| Bale characteristics | |  |
| Bale size/weight |  | Compacted Bales – 350 - 650kg. |
| Storage |  | Dry storage on concrete hardstand (so no gravel included in bales). |
| Strapping |  | 4 - 10 straps and not cross-bound or broken. |

Disclaimer

APCO and the contributing authors have prepared this publication with a professional level of care. It is based on generally accepted practices and standards at the time it was prepared. The scope of the publication, the intended audience of the publication, the purpose of the publication, the methods adopted in preparing the publication and the sources of information used in the publication are stated in the publication. This publication is prepared for use only by APCO and expressly stated intended audience of the publication. APCO and the contributing authors are not liable for any loss or damage that may be occasioned directly or indirectly arising from or in connection with any use, or reliance on, the contents of this publication. It does not purport to give legal or financial advice. No other warranty, expressed or implied, is made as to the professional advice included in this publication.

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