Plastic recyclability specifications by country

NL	**Material** → Made from only PE, preferably without hard components. Infrastructure to recycle PP flexible packaging is expected to come in the near future [2]. **Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided [1]. Transparent plastic or light colors are preferred **Size** → Larger than A4 for high-quality recycling (making new packaging out of recycled packaging). Between 50x50mm and A4 for downcycling (making other products like outdoor furniture out of recycled packaging) [2]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [1]. **Disposal** → check your municipality to see where to dispose of recyclable plastic. **Technical requirements:** ● **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [1]. ● **Fillers** → their use should not increase the density of the plastic over $1g/cm^3$, as this would result in sorting issues [1] ● **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [1]. ● **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [1].
	[1] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020) [2] Roadmap: Multilayer flexible plastic packaging in a circular economy (Netherlands Institute for Sustainable Packaging, 2020)
US	**Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided. Transparent plastic or light colors are preferred [1] **Material** → Made from only PE, preferably without hard components [1] **Size** → Not specified [1] **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging [1]. **Disposal** → Most municipalities do not have the infrastructure to sort flexible plastics out of the curbside recycling bins. To ensure it gets recycled, check if your municipality accepts plastic film, or just bring it to a store drop-off point. You can find your nearest drop-off point here. **Technical requirements:**

DE (continued)	**Barrier layers and coatings** → They should be minimized. Commonly acceptable additives include: thermal stabilizers, UV stabilizers, nucleating agents, antistatic agents, lubricants, slip agents, impact modifiers, chemical blowing agents, tackifiers. PVC and PVDC should be avoided. Metalized layers will be sorted out (not recyclable) [1]. **Fillers** → their use should not increase the density of the plastic over 1g/cm^3 [1]. **Adhesives** → minimal adhesive use is encouraged. More research is needed to classify the adhesives that are compatible with current infrastructure in the US [1]. **Inks** → minimal levels of print coverage and light colors are preferred [1]. [1] APR Design Guide (Association of Plastic Recyclers)
UK	**Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided [1]. Transparent plastic or light colors are preferred. **Material** → Made from only PE, preferably without hard components [2]. **Size** → Bigger than 50x50mm [1]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [1]. **Disposal** → Most municipalities do not have the infrastructure to sort flexible plastics out of the kerbisde recycling streams. To ensure it gets recycled, bring it to a front-of-store collection point. You can find your nearest front-of-store collection point here. **Other** → Clean, without food left inside [2]. **Technical requirements:** **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [1]. **Fillers** → their use should not increase the density of the plastic over 1g/cm^3, as this would result in sorting issues [1] **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [1]. **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [1]. [1] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020) [2] What to do with plastic film and carrier bags (Recycle Now UK)
DE	**Color** → NOT black. Black plastic cannot be sorted. Dark colors degrade the recycled outcome and should also be avoided [1]. Transparent plastic or light colors are preferred

	Material → Made from only PE. Infrastructure to recycle PP flexible packaging exists but it is still limited (pilot projects), currently the focus is on rigid PP [2], although it is expected to grow in the future [3],[4] Size → Larger than A4 [3] Labels → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [1]. Disposal → through the "Dual-system" Other → Clean, without food left inside [3] Technical requirements: - Barrier layers and coatings → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [1]. - Fillers → their use should not increase the density of the plastic over 1g/cm^3, as this would result in sorting issues [1] - Adhesives → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [1]. - Inks → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [1].
	[1] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, June 2020) [2] Erfolgsstory Werner & Mertz (Der Grüne Punkt) [3] Mindeststandard für die Bemessung der Recyclingfähigkeit (Umweltbundesamt, 2020) [4] Flexible Design for Recycling für flexible Verpackungen (Neue verpackung, 2019)
FR	In France, flexible plastics are mainly downcycled [1]. This means that flexible plastic packaging will not become new packaging but other products (for example, trash bags or furniture) Color → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided [2], [3]. Transparent plastic or light colors are preferred Material → Made from only PE, preferably without hard components [3]. Size → Film must be larger than A5 [1] Labels → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [2]. Disposal → it depends on each municipality. Le guide du tri provides information about what to dispose in which bin for each municipality

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	[1] Plastics sorting and recycling in France (Comité Technique pour le Recyclage des Emballages Plastiques) [2] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020) [3] Sorting and recycling potential of PE and PP spouted pouches (Comité Technique pour le Recyclage des Emballages Plastiques)
DK	In Denmark, flexible plastics are mainly downcycled [1]. This means that flexible plastic packaging will not become new packaging but other products (for example, trash bags or furniture). **Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided. Transparent plastic or light colors are preferred [1], [2]. **Material** → Made ›90% with PE or PP [1]. **Size** → Bigger than 50x50mm [2]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [2]. **Disposal** → it depends on each municipality. Refer to your municipality's website for specific information. **Technical requirements:** ● **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [2]. ● **Fillers** → their use should not increase the density of the plastic over 1g/cm^3, as this would result in sorting issues [2] ● **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [2]. ● **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [2]
	[1] Reuse and recycling of plastic packaging for private consumers (Netværk for cirkulær plastemballage)

	[2] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020)
SE	**Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided. Transparent plastic or light colors are preferred [1], [2]. **Material** → Made from only PE, preferably without hard components. PP does not have the same recycling potential, since there is currently no market for this type of recycled PP [2]. **Size** → Bigger than 50x50mm [1]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [1]. **Disposal** → it depends on each municipality. Refer to your municipality's website for specific information. **Technical requirements:** • **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [1]. • **Fillers** → their use should not increase the density of the plastic over 1g/cm^3, as this would result in sorting issues [1] • **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [1]. • **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [1].
	[1] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020) [2] A quick guide for plastic recycling (Förpacknings & Tidnings Insamlingen). Download the full, detailed manual here
NOR	**Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided. Transparent plastic or light colors are preferred [1], [2]. **Material** → Made from only LDPE, preferably without hard components [2]. **Size** → Bigger than 50x50mm [1]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [1]. **Disposal** → it depends on each municipality. Refer to your municipality's website for specific information **Other** → Clean, without food left inside [3]

Technical requirements:
- **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [1].
- **Fillers** → their use should not increase the density of the plastic over $1g/cm^3$, as this would result in sorting issues [1]
- **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [1].
- **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [1].

[1] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020)
[2] Basic Facts Reporto n Design for Plastic Packaging Recyclability (Mepex Consult AS, 2017)
[3] Tips for plastic sorting (Green Dot Norway)

ES	In Spain, flexible plastics are mainly downcycled [1]. This means that flexible plastic packaging will not become new packaging but other products (for example, trash bags or furniture). **Color** → NOT black. Black plastic is not sortable. Dark colors degrade the recycled outcome and should also be avoided [2]. Transparent or light colors are preferred [3]. **Material** → Ideally made from only LDPE. However, since film is generally downcycled in Spain, LDPE can be combined with other similarly dense plastics like HDPE or PP [1]. **Size** → Bigger than 50x50mm [2]. **Labels** → Ideally made of the same material as the packaging. Paper labels should not be used on plastic packaging. If a different material is used (not paper), it should be easily removable in cold water washing, and it should not cover more than 30% of each packaging face, to prevent incorrect sorting [2]. **Disposal** → in the light packaging container (yellow). Technical requirements: • **Barrier layers and coatings** → EVOH, PVOH, SiOx, AlOx, and acrylic coatings are permitted but only if their total weight is less than 5% of the total packaging weight. The use of PVDC is discouraged [2]. • **Fillers** → their use should not increase the density of the plastic over $1g/cm^3$, as this would result in sorting issues [2] • **Adhesives** → Polyurethane, acrylic or natural rubber latex adhesives, non-PE or non-PP based tie-ayers are permitted to a maximum of 5% by weight of total structure [2]. • **Inks** → minimal levels of print coverage and light colors are preferred, to optimise the value of the recyclate. Lacquers and inks without PVC binders are permitted up to a maximum of 5% by weight of the total structure [2].

[1] Envases de plástico. Diseña para reciclar (Recoup, 2016)
[2] Designing for a Circular Economy – Technical Report (A Circular Economy for Flexible Packaging, 2020)
[3] Guía de ecodiseño de envases y embalajes (Ecoembes, 2017)