NFD 节能包装解决方案

2017 年 9 月 30 日
中国上海

在产品从工厂最终到达消费者的过程中保护其价值，是塑料包装最重要的使命。新孚达公司（NFD）通过与上下游企业的密切合作，致力于开发所耗资源最少、价值最大化的超轻塑料包装解决方案，为商品提供最全面的保障，帮助制造商在满足客户需求的同时，保护地球环境。

NFD 的新型不含邻苯二甲酸酯的抗冲共聚聚丙烯面向薄壁包装，可实现减薄及快速成型

薄壁包装如今已十分普及，尤其是在食品包装领域，常应用于即食食品、黄油、奶油和奶酪等的包装，同时也适用于家用制品、家电、瓶盖等。为了应对主要产业的挑战，更好地满足客户需求，NFD 推出了一系列不含邻苯二甲酸酯的抗冲共聚聚丙烯（Gepla® PP 系列材料）。

这些新产品可通过缩短生产周期以提高生产效率，实现薄壁加工以减轻重量，帮助包装制造商和生产商获得更多商机。新牌号符合味道和气味的行业感官性要求，并具备卓越的刚性和更高的抗压强度，可实现高堆叠性，有助于制造商降低运输和仓储成本。

高流动性的 NFD Gepla®PP 系列材料是专门为食品和非食品应用的薄壁包装开发，与普通的抗冲共聚聚丙烯相比，能在高刚性和冲击强度之间实现完美平衡。此外，它们具有极好的感官特性，气味和味道微乎其微，得益于高结晶温度和优异的流动性，可实现快速模具填充，缩短生产周期，从而大幅减少制造时间和成本。这类产品通常用于硬包装，如冷冻、冷藏以及常温存储的食品、乳制品、家用制品、家电、玩具、瓶盖等。

随着生活节奏日益加快，消费者对于预包装食品以及热灌装包装形式的需求日益增加，如杯子、瓶子及微波炉用包装。 凭借聚合物领域的先进技术，Gepla®PP 与一般抗冲共聚物相比，可在高刚性、冲击强度和高热变形温度之间实现完美平衡。使用 Gepla®PP 材料制成的硬包装可盛放热内容物，适用于包装食品和非食品、瓶盖以及家用制品。对于要求高刚性和高流动性之间良好平衡的薄壁包装应用而言，该材料无疑是完美的选择。它可使包装壁厚减少 10%，胜任快速注塑工艺，从而减少材料使用和能源消耗，提高生产效率。与现有材料制造的产品相比，它还具有更高的抗压强度，从而提高包装的堆叠能力，增强运输和仓储的经济性。

不含邻苯二甲酸酯的注塑级 Gepla®PP 使客户能够设计出更薄的包装，而其高热变形温度（120°C，0.45MPa）则能适用热灌装应用，同时也可用于容器和瓶盖等应用。

与玻璃或金属包装相比，我们为食品包装开发的全新多覆合包装设计不仅可减少包材重量，更能降低整个产品生命周期内的温室气体排放和能源需求。 薄膜各层中不同的产品搭配，可带来软包装袋所需的强度、挺度及光学和卫生性能。此外，使用灌装袋软包装相较预装硬包装可显著节省运输成本。

NFD 的多元化发泡解决方案致力于在运输过程中为商品和食品提供全面的保护

发泡包装有助于缓冲、减重，并带来保温效果，它们也十分轻便，耐化学腐蚀，可安全食品接触，具有出色的成本效益。包装企业希望在减少包装材料的同时，为货物和食品在运输过程中提供缓冲和保护。

NFD 可提供快速成型的低密度聚乙烯发泡材料，适用于保护性包装应用，它也是该系列产品中第一款能为发泡商减少 50%排气储存时间（这意味着减少发泡商的库存） 的产品，同时由于制造过程中的废弃物更少和更佳的一致性发泡性能，生产效率也提高了 5%。

NFD 近期推出的 LDPE 发泡材料可在节省材料和能源消耗的同时，保持甚至提高产品性能。

NFD Gepla®LDPE 的高粘度特性可带来良好的模压，从而实现均匀和较厚的发泡厚度。而更高的树脂密度，也有助于提高机械强度。与市场上现有的材料相比，其性能一致性更高，加工窗口更广，因而该牌号产品对断线和泡孔坍塌的敏感度较低，加工过程中的材料利用率也更高。其制成的发泡产品比现有材料具有更高的压缩强度、更好的回弹性和更均匀的表面及泡孔结构，且其破孔更少，尺寸稳定性也更佳。 这些特性都有助于在生产过程中节省材料消耗。

NFD HIGHLIGHTS RESOURCE AND ENERGY-EFFICIENT PACKAGING SOLUTIONS

09-30-2017
Shanghai, China

Securing product value from factory to consumer is the most important contribution of plastic packaging. Working close with industry partners, NFD devises plastic-packaging solutions that offer great value with minimum resources and extremely lightweight designs that protect the product, help manufacturers serve their customers, and safeguard the environment.

NFD'S NEW PHTHALATE-FREE POLYPROPYLENE IMPACT COPOLYMERS FOR THIN-WALL PACKAGING ENABLE DOWNGAUGING AND FASTER PROCESSING

Thin-wall packaging is ubiquitous in today's world, particularly for food, from ready-meals to butter, cream, and cheese, but also in applications like houseware, appliances, caps and closures. In response to major industry challenges and to better meet customers' needs, NFD is introducing a new phthalate-free range of polypropylene impact copolymers .

These new offerings open further opportunities for packaging manufacturers and convertors with production efficiency through shorter cycle times and weight savings through thin-wall

manufacturing. The new grades comply with industry's organoleptic requirements for taste and odor, with excellent stiffness and higher top-load strength for high stackability that help manufacturers achieve lower transport and storage costs.

Developed for thin-walled packaging applications for both food and non-food applications, high-flow injection-molding grades NFD Gepla®PP provide a great balance between high stiffness and impact strength than a standard impact copolymer. They have excellent organoleptic properties with very low smell and taste, and allow for easy mold-filling and very short cycle times thanks to high crystallization temperatures and excellent flow behavior, minimizing manufacturing time and costs. The materials are typically used in rigid packaging such as packaging for frozen, chilled and ambient food, dairy products, applications in the housewares, appliances, toys, caps and closures.

Today's fast-paced lifestyles are driving demand for pre-packed food and for hot-filling packaging such as cups and bottles as well as microwave use. Gepla®PP incorporates important advances in polymer chemistry that yield a material with a great balance between high stiffness, impact strength and high heat distortion temperature than a standard impact copolymer. Rigid packaging made with Gepla®PP polymer includes applications that can be filled with hot content, as well as containers intended for packaging foods and non-food products, caps and closures, and in the production of housewares. It is an excellent candidate for thin-wall packaging applications where a good balance of high stiffness and high flow is required. It enables up to 10% thinner walls and fast injection, thus reducing material usage and energy consumption, and increasing productivity. It also has considerably higher top-load strength than identical products made with current benchmark materials, which in turn improves stackability, providing better economics in transport and storage.

Injection-mouldable phthalate-free Gepla®PP enables customers to design thinner wall applications and utilize its high heat distortion temperature (120 ° C at 0.45MPa) for hot-fill applications, and is used for applications such as containers and caps and closures.

Our new concepts for multilayer laminate pouches for food packaging reduce weight, greenhouse-gas emissions, and energy requirements across the product lifecycle compared to glass or metal packaging. Different layers of films use different polymer blends to collectively provide the required strength, stiffness, optics and hygienic properties for the flexible pouches. The use of fillable pouches can offer significant savings in transportation versus transporting pre-filled, rigid containers.

NFD'S DIVERSE FOAM SOLUTIONS PORTFOLIO WORKS TO PROTECT GOODS AND FOOD DURING TRANSPORT

Foam packaging helps absorb shock, reduce weight and provide thermal insulation; they are also lightweight, chemical-resistant, safe for food contact and cost-efficient. Companies are designing packaging to use as little material as possible, yet provide the cushioning to protect food and goods to survive the delivery process.

NFD can provides fast-converting low-density polyethylene foam grade for protective packaging, is the first in a series of product that combine up to 50% shorter degassing storage time at the foam manufacturer – reducing the foam manufacturer's inventory - and 5% higher production efficiency due to less manufacturing waste and better foam consistency.

Recently launched NFD Gepla®LDPE foam materials offers properties of energy savings while retaining or even improving product performance.

The advantages of NFD Gepla®LDPE are high viscosity, giving good head pressure for uniform and thicker foam thickness, and relatively higher resin density for better mechanical strength. This grade is less sensitive to web-breaks and foam-collapse due to high consistency and a wider operating window compared to existing materials in the market, resulting in a higher material yield during processing. The foams produced give a higher compression strength, better resilience, uniform surface and cell structure, and fewer pinholes, as well as better dimensional stability compared to existing materials. This offers opportunities for material savings during production.