

异构酒花颗粒 (90型 & 45型)

Isomerized Hop Pellets (Type 90 & Type 45)

概述 OVERVIEW

异构酒花颗粒是由传统酒花颗粒再加工制成，在煮沸过程中添加至麦汁煮沸锅。由于本品在生产过程中，对 α -酸进行了预异构化处理，使该产品具有更高的利用率。本品通过在加工过程中，添加少量食品级氧化镁 (MgO)，然后再对包装好的酒花颗粒进行温贮处理，以实现异构化。

Iso-Pellets are a hop product made from leaf hops, added to the wort kettle during the boiling process. They offer a higher yield as a result of pre-isomerization of the alpha acids during the production process. Isomerization is induced by adding a small amount of food-grade MgO during processing followed by warm storage of the packaged pellets.

异构酒花颗粒可替代传统的苦型和香型酒花产品，且不会影响啤酒品质。使用预异构化酒花产品，可显著降低成本。

Iso-Pellets can replace conventional bittering and aroma products without impacting beer quality. Substantial cost savings are possible with pre-isomerized hop products.

异构酒花颗粒具有优异的储存稳定性。

Iso-Pellets have excellent storage stability.

规格 SPECIFICATIONS

- 简述 Short description: 圆柱形酒花颗粒，其中大部分 α -酸已转化为异 α -酸。
cylindrical pellets; most of the alpha acids in these pellets have been converted to iso-alpha acids
- α -酸 Alpha acids: 1-25%
(原始 α -酸中至少有90%转化为异 α -酸)
(a minimum of 90 % of the original alpha acids are converted to iso-alpha acids)
- β -酸 Beta acids: 1-14%
- 酒花油 Hop oils: 0.2-7.0ml/100g
- 水分 Moisture content: 6-9%

性能 PACKAGING

外观 Appearance

异构酒花颗粒为暗绿色颗粒，尺寸约为直径6mm×长度10-15毫米mm。其硬度略高于标准颗粒。但打开包装后，大部分颗粒会很容易破碎。

Iso-Pellets are dull green pellets, approximately 6 mm x 10 -15 mm in size (diameter x length). Iso-Pellets are slightly harder than standard pellets, but bulk pellets should break apart easily when the package is opened.

风味 Flavor

通过酿造对比试验及大量实践经验证实，使用异构酒花颗粒替代传统颗粒，可生产出具有相同风味特征的啤酒。具体风味表现取决于酒花品种、添加量和添加时机。更多信息请参阅相应酒花品种的技术资料。

Brewing trials comparing the two types of pellets and backed up by extensive practical experience, demonstrate that beers with identical flavor profiles can be produced when Iso-Pellets are used in place of standard pellets. The flavor depends on the variety, quantity and time of addition. For further information, please refer to the hop variety data sheets.

利用率 Utilization

根据HPLC分析，异构酒花颗粒的利用率（包括煮沸后期添加）通常为45-55%。

Utilization of Iso-Pellets (including late kettle additions) normally falls within a range of 45 -55 % as determined by HPLC.

标准化生产 Standardization

45型异构酒花颗粒的异 α -酸含量，可在制粒过程中，按特定浓度要求进行标准化调整。

The iso alpha acid content of Type 45 Iso-Pellets can be standardized to specific concentrations during pellet production.

质量 Quality

所有斯丹纳产品均在符合国际认证质量标准的生产设施中加工制造，并配备完善的残留物监控体系。

All Hopsteiner products are processed in facilities which fulfill internationally recognized quality standards. A monitoring system for residues is in place.

包装规格 PACKAGING

本产品采用标准包装规格，也可以根据客户要求提供其它规格。

Our products are delivered in their respective recommended standard packaging. Alternatives may be possible upon customer request.

美国(US)与德国(DE)加工厂的包装规格如下：

Standard packages of our processing plants in the USA (US) and Germany (DE) are:

- 5、10、90、140kg，五层铝箔充惰性气体软包装(DE)
5, 10, 90, 140 kg softpack under inert gas in 5-layer aluminum composite foils (DE)
- 20kg，五层铝箔充惰性气体软包装(US)
20 kg soft pack under inert gas in 5-layer aluminum composite foils (US)

产品使用 USAGE

添加量 Dosage

异构酒花颗粒的使用方式与传统颗粒类似，可为啤酒提供苦味和酒花香气。添加量可根据颗粒中异 α -酸含量计算得出，由于本品 α -酸经过预异构化处理，其利用率预计比传统颗粒提高约50%。煮沸后期添加异构酒花颗粒（通常在煮沸结束前5-20分钟）可获得相同的利用率，同时增强酒花香气和风味。

Iso-Pellets are used in similar ways to standard pellets, contributing bitterness and hop aroma to beer. The quantity of Iso-Pellets in an addition can be calculated using the iso-alpha acids content of the pellets and the assumption that utilization, due to pre-isomerization of the alpha acids, is likely to be approximately 50 % higher than that achieved with standard pellets. Late kettle additions of Iso-Pellets (typically 5 – 20 min prior to the end of the boil) result in the same utilization but increase hop aroma and flavor.

添加方法 Application

异构酒花颗粒可直接添加至麦汁煮沸锅或酒花投置器中。由于本品具有良好的流动性，也可通过自动化设备添加。但在大容量处理系统中，应采取措施，避免其长时间暴露在空气中。在沸腾麦汁中接触约10分钟，即可达到最大利用率。

Iso-Pellets can be added directly to the wort kettle or hop dosing vessel. Alternatively, owing to their free-flowing nature, additions of Iso-Pellets can be automated. However, measures should be taken to avoid prolonged exposure to air in any bulk handling system. A contact time of about 10 minutes in boiling wort is sufficient to achieve maximum utilization.

存储 Storage

建议低于10°C（50°F）存储（未启封）。

The recommended storage temperature in the original unopened packaging is < 5°C（41°F）.

短期运输过程中的温度波动，不会影响产品质量。

Short-term, transport-related temperature deviations do not affect product quality.

最佳使用时间 Best Before Date

在建议的储藏条件下，最佳使用时间为生产/包装日期后至少六年。

Under the recommended storage conditions, the shelf life from the date of production/ packaging is at least 6 years.

安全性 Safety

确保工作场所通风良好，并佩戴个人防护装备。避免接触眼睛和皮肤，请勿吸入蒸汽或粉尘。更详尽的安全资料请参考斯丹纳产品安全数据表。

Ensure good ventilation of the workplace and wear personal protective equipment. Avoid contact with eyes and skin. Do not inhale vapors or dusts. For full safety information, please refer to the relevant Hopsteiner safety data sheet.

分析方法 ANALYTICAL METHODS

使用ASBC（美国酿造协会）和Analytica-EBC（欧洲酿造协会）等国际权威机构颁布的最新标准方法进行检测。

International approved methods listed in committees such as ASBC or Analytica-EBC using current standards are applied.

产品分析 Product analytics

苦味物质含量 Concentration of bitter substances

- Analytica-EBC 7.11 (HPLC)
- ASBC Hops-15 (HPLC)

酒花油含量 Concentration of hop oils

- Analytica-EBC 7.10 (Distillation)
- ASBC Hops-13 (Distillation)

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