

稳定型酒花颗粒（90型 & 45型）

Stabilized Hop Pellets (Type 90 & Type 45)

概述 OVERVIEW

稳定型酒花颗粒由酒花原花加工而成，在麦汁煮沸过程中添加至煮沸锅。由于加工过程中，添加了大量氧化镁（MgO）其提供的Mg²⁺离子，所以本品能显著提高 α -酸的利用率。
Stabilized Pellets are a hop product made from leaf hops, added to the wort kettle during the boiling process. They offer improved utilization of alpha acids due to the presence of excess Mg²⁺ ions added as MgO during processing.

稳定型酒花颗粒可完全替代用于提供苦味和香气的传统酒花产品，且不会影响啤酒品质。
Stabilized Pellets can replace conventional hop products for bitterness and aroma without impacting beer quality.

与传统酒花颗粒相比，稳定型酒花颗粒在长期储存后的苦味物质损失更少。
Stabilized Pellets exhibit fewer losses in bittering potential compared to standard pellets after prolonged storage.

规格 SPECIFICATIONS

- 简述 Short description: 酒花原花粉碎后压制成，在制粒前混合了食品级的氧化镁。
cylindrical hop pellets; mechanically produced from milled leaf hops; stabilized pellets are blended with MgO prior to pelletization
- α -酸 Alpha acids: 1-25%
- 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

稳定型酒花颗粒呈橄榄绿色，尺寸约为直径6mm×长度10-15mm。
Stabilized Pellets are olive green pellets, approximately 6mm x 10-15mm in size (diameter x length).

风味 Flavor

稳定型酒花颗粒在啤酒中产生的风味与酒花原花无异，可为啤酒提供苦味和香气。其风味表现取决于酒花品种、添加量及添加时间。更多详细信息，请参考酒花品种说明页。
Stabilized Pellets produce flavors in beer indistinguishable from those of regular pellets. Stabilized Pellets provide bitterness and aroma to the beer. 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

若在煮沸初期（开始煮沸后15分钟内）添加，利用率通常为38%-40%，相比传统颗粒酒花，本品更高的利用率得益于Mg⁺⁺离子能催化 α -酸快速转化为异 α -酸。若在煮沸后期添加，利用率可能降至30%或更低（具体取决于实际工艺条件）。两种添加方式均可根据目标风味强度及啤酒风格进行调整。
Given as an early kettle addition (up to 15 min after the boil begins), hop utilization normally falls within a range of 38 – 40%. This higher utilization, compared to standard pellets, is due to the Mg⁺⁺ ions catalyzing the rapid conversion of alpha acids to iso-alpha acids. When Stabilized Pellets are added late in the boil, utilization can decline to 30% or less, depending on individual process conditions. Both additions can vary depending on the desired intensity and the beer style.

标准化 Standardization

在生产过程中，稳定型酒花颗粒45型的 α -酸可按指定的含量加工。
The content of bitter substances in Type 45 Stabilized 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

稳定型酒花颗粒的使用方式与传统酒花颗粒类似，可为啤酒提供苦味和酒花香气。其添加量可根据颗粒的 α -酸含量及预估/已知利用率计算得出。煮沸后期添加（通常在煮沸结束前5-20分钟）会降低 α -酸利用率，但能增强酒花香气与风味。

Stabilized Pellets are used in similar ways to standard pellets, contributing bitterness and hop aroma to beer. The quantity of Stabilized Pellets in an addition can be calculated using the alpha acid content of the pellets and an estimated or known utilization. Late kettle additions of Stabilized Pellets (typically 5 – 20 min prior to the end of the boil) reduce alpha acid utilization but increase hop aroma and flavor.

添加方法 Application

稳定型酒花颗粒可直接投入麦汁煮沸锅或酒花投置器中。由于其良好的自流性，也可实现自动化添加。但在任何投置系统中，都应采取措施，避免酒花长时间暴露在空气中。

Stabilized Pellets can be added directly to the wort kettle or hop dosing vessel. Alternatively, owing to their free-flowing nature, additions of Stabilized Pellets can be automated. However, measures should be taken to avoid prolonged exposure to air in any bulk handling system.

存储 Storage

建议低于5°C（41°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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