食品接触涂层制品的微生物检测

Microbiological Testing on Coated Food Contact Products

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Precisely Right.

饮食是人们日常生活的重要组成部分。每个消费者都会关心与食物相接触的产品安全，即食品接触制品的安全。此类产品需按照各种规章制度和市场需求进行安全认证。然而，除安全性以外，如今的市场越来越注重质量和特性。抗菌 / 抗真菌性能是能够提升产品质量水平的特性之一。为确认这一高端特性，TÜV 莱茵可提供量身定制的微生物检测。

Eating and drinking are basic needs in our daily lives. It is natural for consumers to be concerned with the safety of the packaging that their food and drinks come in, particularly the materials in direct contact with edible items. These food contact products need to be verified as food safe according to various regulations and marketing requirements. But nowadays, the quality and special features of food contact materials are gaining prominence. Antibacterial or anti-mould properties are one of the qualities that could elevate these products to the high end of your portfolio. At TÜV Rheinland we offer a tailor-made microbiological test to verify this top quality feature.

可用标准 Available standard:

测试标准 Testing Standard	适用范围 Applicable	意义和用途 Significance and Use
ASTM E 2149《在动态接触条件下测定稳态抗菌剂的抗菌行为》 ASTM E 2149 Determining the Antimicrobial Activity of Antimicrobial Agents Under Dynamic Contact Conditions	所有材料，包括异形材料 All materials, including different shapes	评估非浸出抗菌处理样本（包括塑料和所有其他基质）的抗菌性 To evaluate the resistance of non-leaching antimicrobial treated specimens, including plastics and other substrates
ISO 22196《塑料制品表面抗菌性能评价》 ISO 22196 Measurement of Antibacterial Activity on Plastics and Other Non-porous Surfaces	塑料与其他无孔表面 Plastics and other non-porous surfaces	评估塑料与其他无孔表面材料（包括中间产品）的抗菌活性 To evaluate the antibacterial activity on plastics and other non-porous surface materials, including intermediate products
JIS Z 2801《抗菌加工制品 - 抗菌性试验方法和抗菌效果》 JIS Z 2801:2010 Antibacterial Products – Test for Antibacterial Activity and Efficacy	塑料与其他无孔表面 Plastics and other non-porous surfaces	评估塑料与其他无孔表面材料（包括中间产品）的抗菌活性 To evaluate the antibacterial activity on plastics and other non-porous surface materials, including intermediate products
Ref. EN 1104《与食品接触的纸和纸板 - 抗微生物成分转移的测定》 Ref. EN 1104 (Hemmhof test) Paper and board intended to come into contact with foodstuffs –Determination of the transfer of antimicrobial constituents	木质砧板 Wooden chopping boards	确定抗菌成分的转移以及对试样上存在的抗菌物质的影响 To determine the transfer of antimicrobial constituents and the effect on the antimicrobial substances present on the test specimens
ISO 16869 《塑料成份中抑制真菌化合物的效果评估》 ISO 16869 Plastics – Assessment of the Effectiveness of Fungistatic Compounds	塑料 Plastics	证明塑料制品是否能有效地防止真菌的侵袭 To demonstrates whether or not a plastic product is actively protected against fungal attack
Ref. ASTM G 21《测定高分子合成材料抗真菌性的标准实施规程》 Ref. ASTM G 21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi	高分子合成材料 Synthetic polymeric materials	确定真菌对高分子合成材料的影响 To determine the effect of fungi on synthetic polymeric materials

* 备注：我们所提供的服务并不仅限于上述标准。如需了解更多详细信息，请随时联系我们。
* Remark: Our service is not limited to the standards listed above. Please feel free to contact us if you need further details.

目前，此类服务可分为 3 个级别：
Currently, there are three service levels offered.

基础级 预先检查（快速扫描） **BASIC LEVEL** Pre-check (quick scan)	• 原材料 / 部件测试 Test on Raw Material/Component • 根据所提供的原材料和部件，判断是否具有抗菌特性（是或否） Results show whether the antimicrobial feature is present or not (YES or NO) based on the provided raw material / component
高级 【预先检查（快速扫描）+ 详细涂层抗菌测试】 **ADVANCED LEVEL** Pre-check (quick scan) + Detailed test on antimicrobial properties of coating	• 原材料 / 部件 + 带最终涂层的最终产品 / 平整表面上最终涂层样本测试 Test on Raw Material/Component + End Product with finished coating/Specimens of finished coating on a flat surface • 在初始阶段对成品涂覆涂层时，判断抗菌特性是否与数据（数量 / 百分比）中的微生物开发数量相关（是或否） Results show whether antimicrobial feature is present or not (YES or NO) related to the amount of microbial development in the data (amount/percentage) for the coating on a finished product at the initial stage
最高级 【预先检查（快速扫描）+ *注 1 实际使用模拟（通过物理测试）+ 详细涂层抗菌测试】 **PREMIUM LEVEL** Pre-check (quick scan) + *Note 1 Actual use simulation (by physical test) + Detailed test on antimicrobial properties of coating	• 原材料 / 组件 + 带最终涂层的最终产品测试 Test on Raw Material/Component + End Product with finished coating • 在初始阶段对成品或对损坏或使用后的成品涂覆涂层时，判断抗菌特性是否与数据（数量 / 百分比）中的微生物开发数量相关（是或否） Results show whether antimicrobial feature is present or not (YES or NO) related to the amount of microbial development in the data (amount/percentage) for the coating on a finished product in the initial stage and on a finished product in a damaged/used condition

* 注 1：目前可供客户选择的测试项目包括涂层抗力测试和洗碗机测试。欢迎客户提出自己的测试方法。欲了解更多详细信息，请随时联系我们！

*Note 1: Clients can choose from the coating resistance test and dishwasher test, or are welcome to suggest their own test method. Please feel free to contact us to discuss further.

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