Huafon TPU HF-3D55D

技术数据表 Technical Data Sheet

产品描述 Product Description

HF-3D55D 是一种线性分子的聚酯型热塑性聚氨酯弹性体，主要适合于挤出成型，它具有操作温度宽，稳定性好的优点，主要应用于管材，薄膜以及线材。

HF-3D55D is a kind of linear molecule of thermoplastic polyurethane elastomer, which is designed for extrusion process. It exhibits high elasticity. It is easy to process and suitable for high-quality required application.

典型参数 Typical Properties

性能 Property	单位 Unit	典型数值 Typical Value	测试方法 Test method
密度 Specific Gravity	g/cm^3	1.26	ASTM D792
硬度 Shore Hardness	Shore D	57	ASTM D2240
拉伸强度 Tensile Strength	MPa	37	ASTM D412
耐水解率 Hydrolysis Resistance (80℃/95%R.H.,7days)	%	90	HUAFON METHOD
拉断伸长率 Ultimate Elongation	%	600	ASTM D412
100%定伸应力 Tensile Stress at 100% Elongation	MPa	15	ASTM D412
撕裂强度 Tear Strength	kN/m	180	ASTM D624
熔融指数 MVR Melt Volume-Flow Rate (200℃,5kg)	$cm^3/10min$	25	ASTM D1238
黄色指数 Yellow Index	-	4	ASTM E313
雾度 Haze (4mm)	%	4	ASTM D1003
成型收缩率 Shrinkage 115mm(L)×25mm(W)×2mm(T)	%	1.0-1.4	FLOWING DIRECTION

本产品所有性能数据均基于注塑成型试样进行测定，试样按标准完成调节处理（23℃/50%相对湿度条件）。上述数值为典型测试值，不可作为技术指标使用。All these physical properties are based on injection molded samples, which are conditioned at 23℃ /50%RH. Above values are typical values and should not be used as specifications.

本文产品信息作为参考指引，具体技术参数及标准以双方签订的质量协议或合同内容为准。为确保使用效果，建议您在实际应用前充分验证材料性能与工艺适配性。若涉及与第三方材料使用，因第三方材料质量或性能引发的问题，我司不承担连带责任，也无法对其使用情况进行监控。需特别说明，我司对产品使用产生的间接损失不承担法律责任。我们始终重视客户需求，如在产品使用、技术参数等方面有任何疑问，或需要专业技术支持，欢迎随时联系我们的客户服务中心，我们将全力为您提供帮助与解答。

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It is the user's responsibility to test the material and its suitability for a process. We have no control over what another party does with the material and we cannot take any responsibility for another party's action. Nor will we be responsible for any indirect damages while using our products.
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产品安全 Product Safety

目前尚未发现该产品存在特殊危害。建议所有人员在接触或加工该产品时佩戴眼部/面部防护装备，并穿着合适的防护服。有关该产品的更多安全信息，请咨询我们的技术服务中心。如需了解更多安全和环境相关信息，请参阅我们的安全数据表（SDS）或联系客户服务中心。

No particular hazards known. When contacting or processing this product, it is recommended that all personnel wear eye/face protection and suitable protective clothing. Any further safety information about this product is available in our technical service center. For more information about safety and environment, please refer to our SDS or contact our customer service center.

包装及运输 Delivery form and packing

颗粒。包装方式根据产品等级及协议要求确定。

Pellets. Packaging is depend on grade and agreement.

使用指南 Guidelines for Moulding

1. 储存 Storage:

热塑性聚氨酯（TPU）产品在运输过程中须进行完整性检查，确保包装容器无破损。产品应储存在阴凉干燥环境中，开启前需恢复至室温以避免冷凝水形成。使用后，剩余物料须立即密封。

Thermoplastic polyurethane (TPU) should be inspected to assure containers are not broken during transportation. Containers should be stored in a cool and dry environment, and should be brought to room temperature before opening in order to prevent condensation. Once being used, containers with residual materials should be sealed.

2. 干燥 Drying:

华峰 TPU 颗粒出厂时已进行预干燥处理。干燥的 TPU 颗粒暴露于空气中会快速吸湿。对于回收循环使用的产品，加工前须重新干燥处理。建议采用循环空气或除湿干燥设备，在（85–100）°C条件下干燥（3–5）小时。如材料易发粘,则应选择较低的处理温度。加工前及加工过程中，材料水分含量需严格控制在≤0.05%以下。

HuaFon TPU materials are supplied pre-dried. Dry TPU pellets will rapidly absorb moisture when exposed to the atmosphere. For recyclable products, HuaFon TPU must be dried before processing. It is recommended to dry the material at (85-100)°C for(3-5)h in a circulating air or dehumidified air dryer. If the material exhibits tackiness, lower temperatures should be selected. The moisture content must be lower than 0.05% and even less before and during processing.

3. 加工 Processing Recommendations:

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物料加工时，熔体应无气泡，否则建议调整干燥温度。

When processing the melt should be bubble and foam free, if not we recommend to adjust the drying temperature accordingly.

根据我们的经验，推荐螺杆的特性如下：

Based on our experience, the features of recommended screw are the following:

a) L/D ratio should be between 25 and 32.

b) The injection moulding machines with single-flighted, 3-zone screws are suitable.

c) The compression ratio should be around 1:2 and should not exceed 1:3.Short screws with high compression ratio are unsuitable for TPU.

d) Single screw extruder with a compression ratio of 1:2 to 1:3, preferably 1:2.5, are recommended for processing. Three-section screws should have continued constant pitch of 1D.The radial clearance between screw and barrel should be 0.1-0.2mm.

e) TPU is shear sensitive, for this reason, the speed of extruder should be low in case of degradation during processing.

4. 注塑加工 Injection moulding:

以下温度数值作为参考，表示温度设置趋势。具体数值因设备及模具的不同而有所差异。

Following temperature are guide value, showing the tendency of temperature profile. These may vary depending on kind of machine and mould design.

模温 Mould-temp.[°C]	加工温度 Melt-temp.[°C]	螺杆 1 区温度 Zone1[°C]	螺杆 2 区温度 Zone2[°C]	螺杆 3 区温度 Zone3[°C]	螺杆 4 区温度 Zone4[°C]	喂料温度 Feeding[°C]
20-50	200-220	195-215	200-220	195-215	190-210	40

类型：螺杆直径 36mm,长径比 20，压缩比 2.3。Type:screw:36mm,L/D:20,compression ratio:2.3.

一般建议 General Recommendations:

螺杆速度 Circumferential speed(screw speed)	20-80rpm
注射压力 Specific back pressure	50-150bar
注射速率 Injection speed	rel.low
熔体停留时间 Retention time of melt (including hot-runner)	＜8min

为便于脱模，建议模具表面的粗糙度度控制在 25-30 微米。

To facilitate demoulding, mould surface with a roughness height of approx.25-30um is recommended.

联系我们 Contaction

浙 江 华 峰 热 塑 性 聚 氨 酯 有 限 公 司
Zhejiang Huafon Thermoplastic Polyurethane Co.,Ltd.
地址/Add：浙江省温州市瑞安市上望街道临湖路 1199 号
No.1199 Linhu Road,Shangwang Street,Ruian City,Zhejiang Province,China
电话/Tel：+86-(0)577-65175858\+86-(0)577-66888058
网址/Web：http://www.huafontpu.com

如需了解更多信息，请联系我们的销售部门。For additional information please contact our Sales Office.

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