

Chopped Strands for PA 热塑性短切原丝产品

品行 創新 責任 學習 激情

Designation and Technical Data/产品技术指标

Designation 产品	Loss on ignition 可燃物含量(%)	Moisture Content 含水率(%)	Filament diameter 单丝直径(μm)	Choppability 短切率(%)	Chop Length 短切长度(mm)
ECS10-03-568H	0.45±0.10	≤0.05	10.0±10%	≥99.00	3.00±1.00
ECS10-03-568HD	0.39±0.04	≤0.05	10.0±10%	≥99.00	3.00±1.00

Feature and Benefits

产品/product	568H	568HD
干态强度/mechanical properties	★	★
耐疲劳性能/fatigue resistance	★	★★
耐水煮性能/hydrolysis resistance	★	★
分散性能/dispersion	★	★★
耐热氧老化性能/heat resistance	★	★★



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New product Chopped strand 568HD for PA

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Comparative trials with two kinds of fiberglass in PA66 and PA6.

- Dry as molded physical properties(Dry as molded: DAM)
- Fatigue properties
- Aging studies- as long life coolant (Long life coolant: LLC)
- Aging studies- as Air oven aging(Air oven aging: AOA)

Experiment

Two kinds of fiberglass: ECS10-03-568H and ECS10-03-568HD

PA6 resin: BL 2800A

PA66 resin: DuPont 101L

Long life coolant: glycol

Extruder: Coperion ϕ 35 twin-screw extruder

Injection machine: FANUC ROBOSHOT S-2000i100A

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Dry as molded physical properties (PA6 with 30% Glass)

Samples		568H	568HD
Tensile Strength (MPa)	23°C, ISO527	175.5	176.5
Tensile Modulus(GPa)		9.26	9.29
Elongation at tensile break (%)		4.12	4.14
Tensile Strength (MPa)	100°C, ISO527	96.5	96.7
Tensile Modulus(GPa)		4.00	4.05
Elongation at tensile break (%)		11.79	12.36



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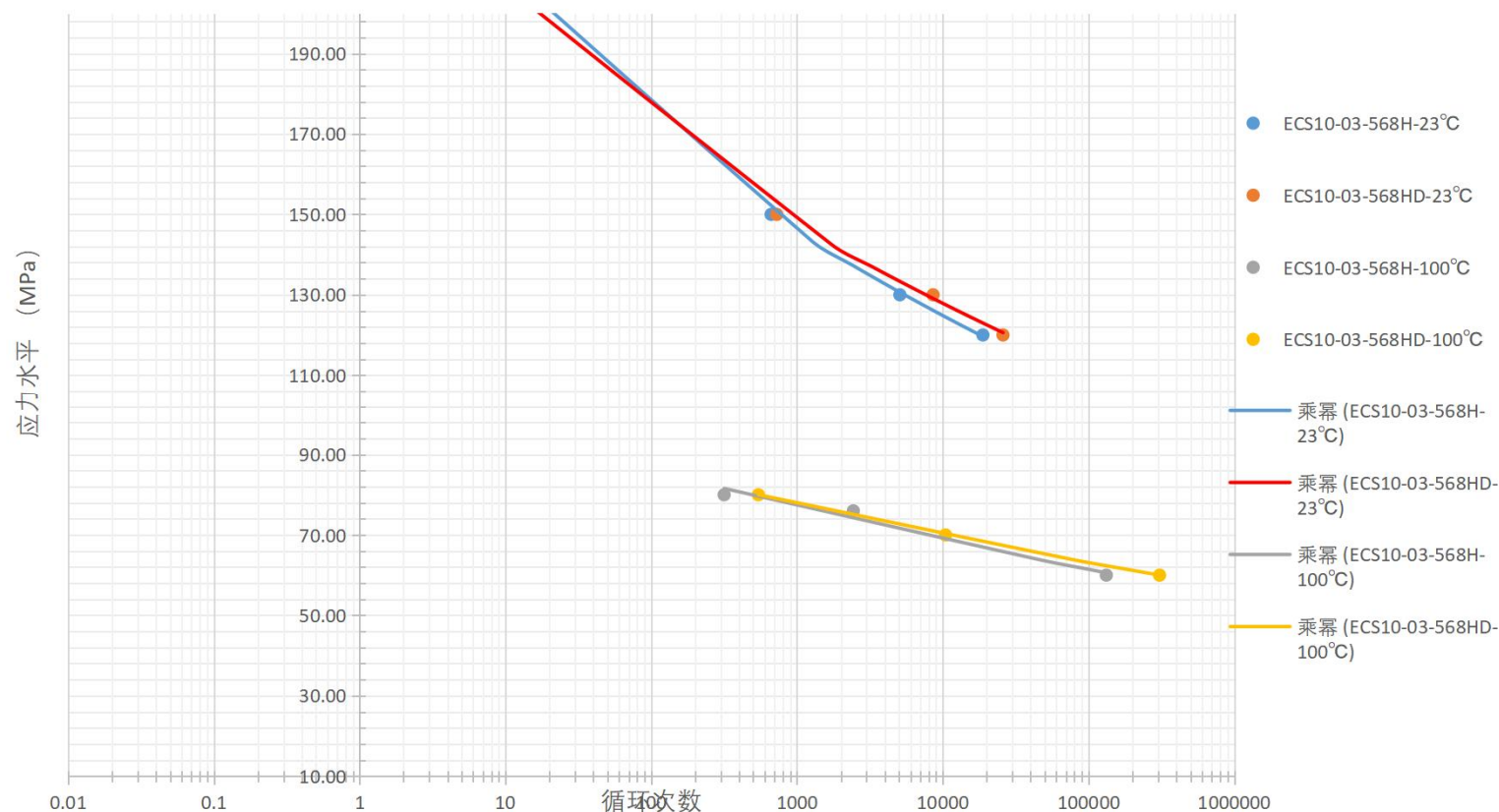


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Fatigue test - at 23°C and 100°C (PA6 with 30% Glass)
疲劳测试——在23°C和100°C下（30%玻纤增强PA6）

tempera ture	Stress max	568H	568HD
23°C	150MPa	664	726
	130MPa	5074	8576
	120MPa	18835	25865
100°C	80MPa	316	543
	70MPa	2432	10443
	60MPa	132291	306866



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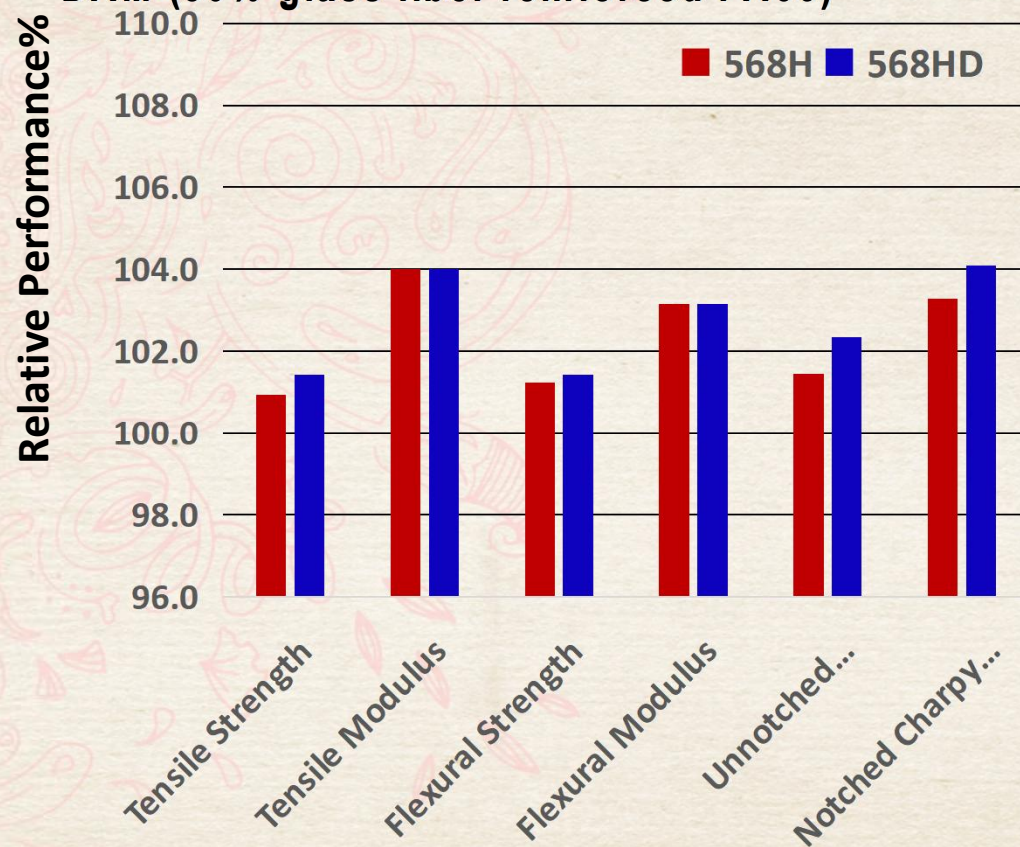


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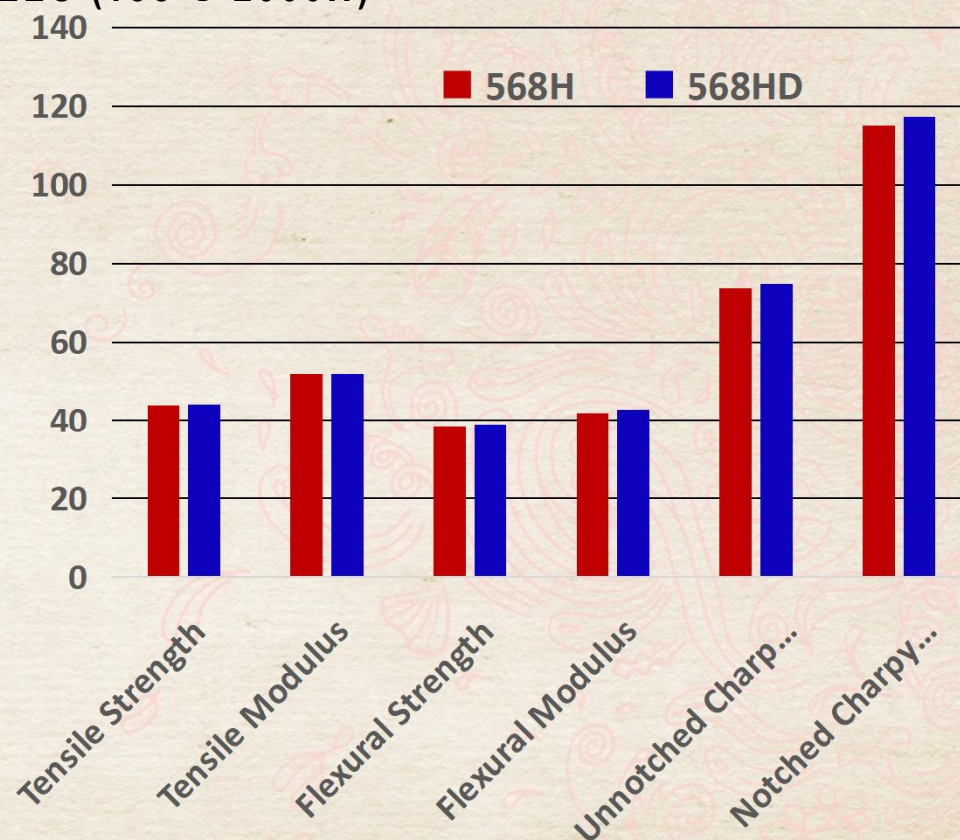
干态性能 (30% 玻纤增强PA66)

DAM (30% glass fiber reinforced PA66)



耐冷冻液测试: 乙二醇 (135°C*2000小时)

LLC (135°C*2000H)



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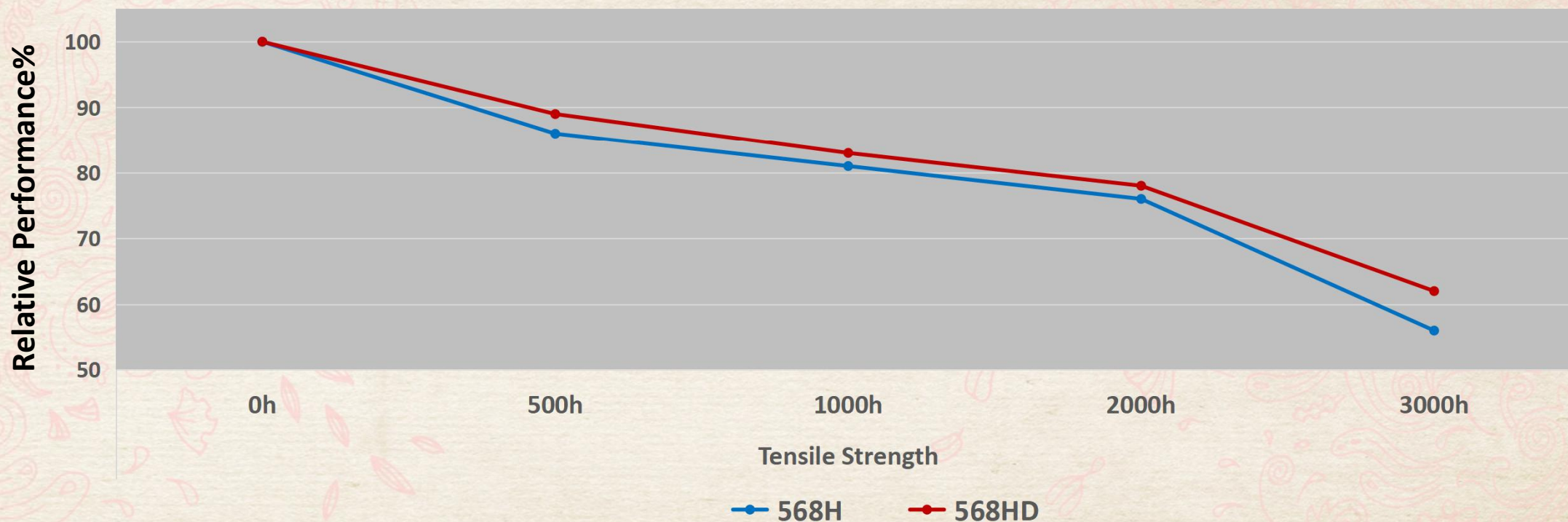


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Aging studies –air-oven aging: Heat air(190℃*3000h) (PA66 with 30% Glass)
耐老化测试——耐热氧老化测试：高温空气（190℃*3000小时）（30%玻纤增强PA66）

Aging studies –AOA: Retention rate of Tensile strength after Heat air(190℃*3000h)



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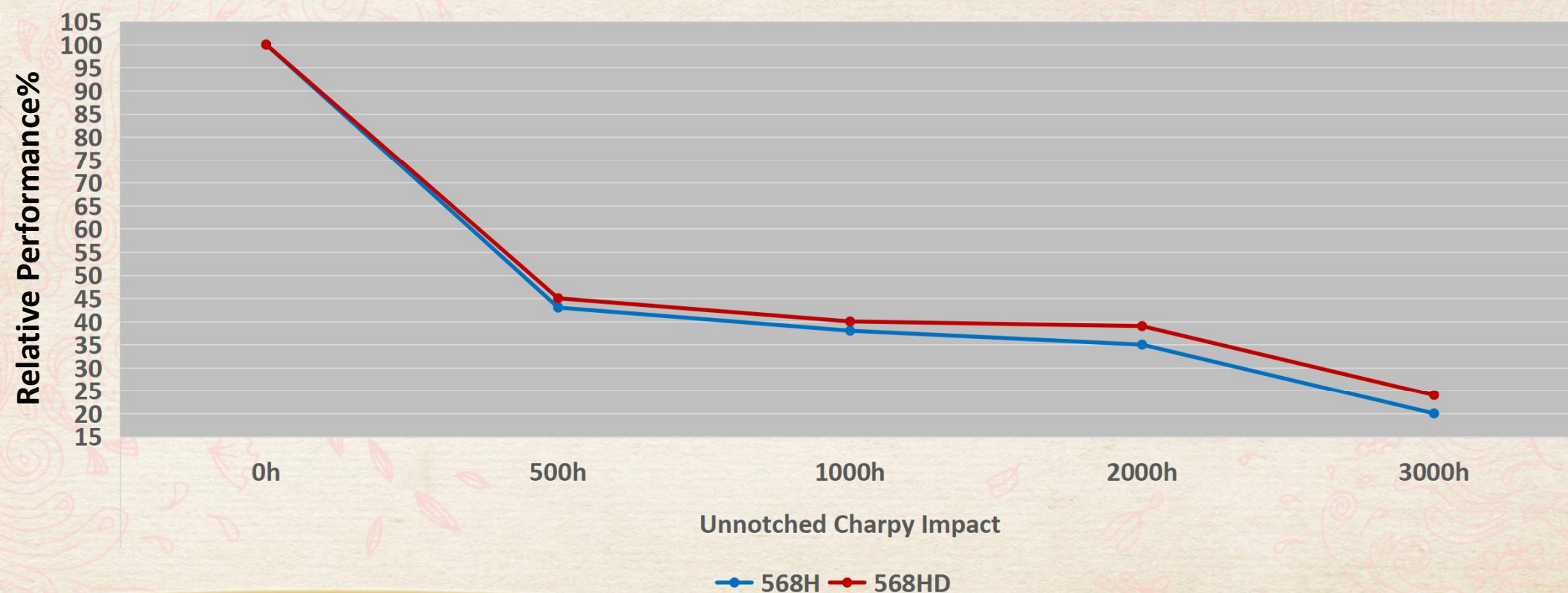


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Aging studies –AOA: Retention rate of Unnotched Charpy after Heat air(190℃*3000h)



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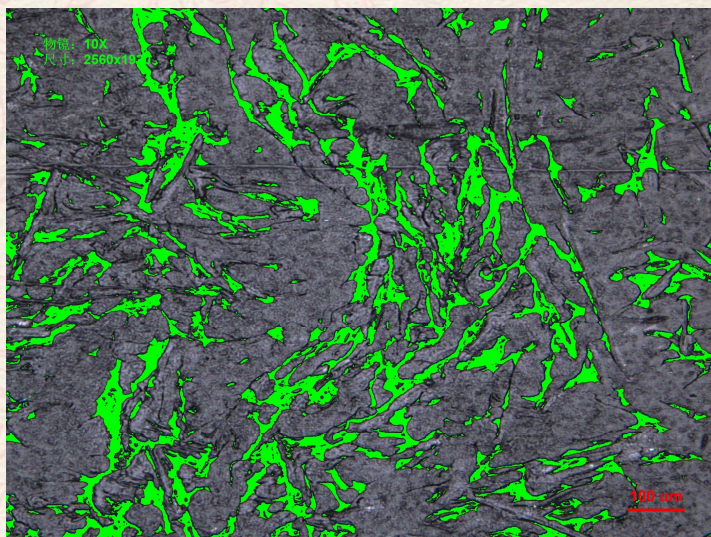
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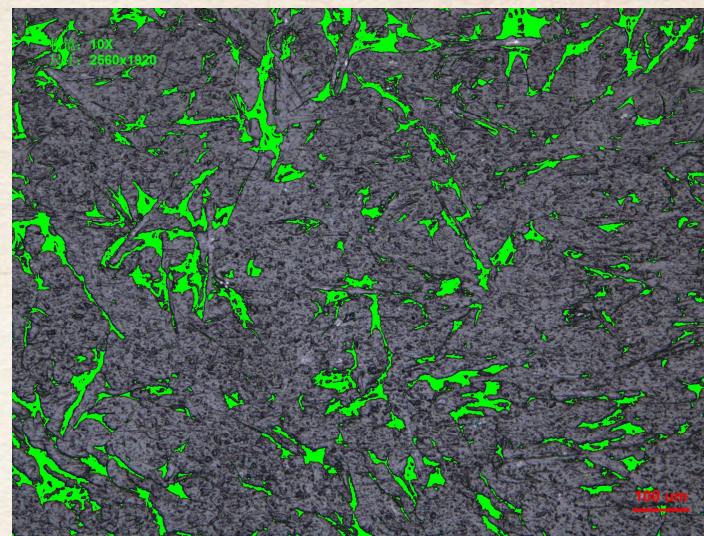
Dispersibility properties (PA66 with 30% Glass)

分散性能 (30% 玻纤增强PA66)

568H



568HD



Running through the test equipment, the distribution of glass fibers on the surface of two different glass fiber reinforced PA6 parts can be compared. The green part indicates that the glass fibers are exposed on the surface of the parts. The larger the green area, the more glass fibers are distributed on the surface, which also means The dispersibility of glass fiber in PA66 resin is worse.

通过检测设备测试发现，对比两款不同玻纤增强PA6制件的表面玻璃纤维分布情况，其中绿色部分表示玻璃纤维裸露在制件表面，绿色面积越大表示玻璃纤维在制件表面分布越多，也意味着玻璃纤维在PA66树脂中的分散性越差，以上测试结果显示568HD的分散性更加优异。



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