

TECHNICAL DATA SHEET

UFC4010 LIQUID EPOXY RESIN

UFC4010 液态环氧树脂技术信息表

UFC4010 is a modified bisphenol-A epoxy resin (EEW -185) which may be combined with suitable curing agents to produce epoxy plastics for potting, laminating, casting and adhesive uses. It is an unfilled, clear, low viscosity resin (3,000-4,000cps at 25°C, 20rpm). This resin does not contain any highly irritating modifier such as butyl glycidyl ether. A thixotropic (paste like) version is available as UFC5001. UFC5001 can be substituted for some or all of the UFC4010 to thicken the mixture.

UFC4010 是一款改进的双酚-A 型环氧树脂 (EEW-185)，可与相应的固化剂配合生成树脂塑料，用于灌封、层压、浇铸和黏合。也是一种非填充的、透明的和低粘度树脂（25°C 和 20rpm 的情况下为 3000~4000cps）。该树脂不含任何强刺激性试剂如丁基缩水甘油醚。它的触变型（类似膏状）是 UFC5001，可代替 UFC4010 作增稠剂。

The mix ratio, pot life, gel time, and cure, as well as the final physical properties of the cured plastic will depend on the curing agent chosen.

以下混合树脂的混合比，适用时间，胶化时间，固化特性以及之后的物理特性取决于与之合用的固化剂。

NOTES 备注

Mix ratio is by weight. For instance for every 50 grams of UFC4010 one would add 16 grams of UFC24. If a different curing agent were used, then the mix ratio would be different.

混合比是按重量计，比如每50克UFC4010需16克UFC24。不同的固化剂有与之相对应的树脂混合比。

Cure is given in hours at a temperature in degrees Fahrenheit and is not a fixed schedule. Your application may be best designed with a different schedule than the one given below. Large castings should be allowed to gel, (become a solid), at room temperature and then cured at a higher temperature. Any cure schedule should finish with at least one hour at 300°F if the maximum physical properties are to be achieved.

固化所需时间依据不同的环境温度（以华氏温度°F为准）而定，在使用上可灵活掌握，不一定完全按照表中所列的时间信息。比如，大浇铸的固化过程可在室温下进行，也可以在高温下完成。但是，任何固化要达到最优的物理特性，应该在300°F的情况下1个小时或以上。

Heat Distortion Temperature (HDT) is that temperature at which a rigid plastic becomes slightly rubber-like.

For most applications, the useful physical properties of a plastic are produced at temperatures below the HDT.

热变形温度是指硬质塑料向橡胶化转变的温度。在应用上，塑料的各种使用特性都应该控制在HDT以下。

USE INFORMATION WITH UFC9 与UFC9合用

This is a room temperature cure with a pot life of 30 to 45 minutes.

一种室温固化剂，适用时间为30~45分钟。

Mix Ratio (parts by wt.) 100/25

混合比 (UFC4010/ UFC9, 按比重)

Use Temperature 使用温度

Short Term 短期 350°F

Long Term 长期 250°F

USE INFORMATION WITH UFC24 与UFC24合用

UFC24 is a curing agent which produces a moderately high temperature plastic, but which requires a heat cure.
UFC4010与UFC24需要高温才能生成耐较高温的树脂塑料。

Mix Ratio (parts by weight)	100/34
混合比(按比重)	
Viscosity (UFC24 alone, 25°C, cps)	120
粘度 (单独UFC24)	
Viscosity (with UFC4010, 25°C, cps)	1500
粘度 (合用UFC4010)	
Pot Life (hours)	4~6
适用时间 (小时)	
Cure (hours/°F)	2/150 + 2/300
固化时间 (小时/°F)	
Heat Distortion Temperature (°F)	323
热变形温度 (°F)	
Density	~1.08
密度	
Thermal Expansion (°C)	0.000048
热膨胀	
Color	As speicified
颜色	

USE INFORMATION WITH UFC67 与UFC67合用

UFC67 is a moderately-low viscosity curing agent designed to produce a wide range of properties. The ratios of UFC67 can be varied to produce coatings/adhesives which are hard and brittle to tough and rubbery. For bonding many plastics a ratio as high as 1 : 1 by volume can be used.

UFC67是比较低粘度的固化剂，有着广泛的物理特性。配合不同的比例可生产不同的涂膜或粘合剂，从硬脆到强韧，混合比例可以高达1：1。

UFC67, a curing agent which produces a flexible hard plastic and will cure at room temperature.

UFC67是适用室温的固化剂，与UFC4010可生成具有弹性硬度的塑料成品。

Mix Ratio (parts by weight)	100/43 to 100/85
混合比 (按重量)	
Mix Ratio by volume (UFC4010 : UFC67)	2:1 to 1:1
混合比 (按体积 UFC4010:UFC67)	
Pot Life (hours)	45
适用时间 (小时)	
Gel Time	40 minutes
胶化时间	
Tack free time	5 hours
干燥时间	
Cure	7 days at RT or 2 hrs/150°F

固化时间

Heat Distortion Temperature (100/43 by wt) 200°F

热变形温度 (按100/43重量比)

Density ~1.07

密度

USE INFORMATION WITH UFC69 与UFC69合用

UFC69 is a curing agent which produces a moderately high temperature plastic, but which requires a heat cure. UFC69 is similar to UFC24 but has a shorter pot life, higher exotherm and produces a plastic which is tougher (higher impact strength).

UFC69需要高温才能生成耐较高温的树脂塑料。性质与UFC24相仿，但适用时间较短，高放热。成品结实韧度高。

Mix Ratio (parts by weight) 100/28

混合比 (按重量)

Pot Life (hours) 3

适用时间 (小时)

Cure (hours/°F) 2/150 + 2/300

固化时间(小时/温度)

Heat Distortion Temperature (°F) 321

热变形温度(°F)

Color Clear (Gardner 2)

颜色

USE INFORMATION WITH UFC81 与UFC81合用

UFC4010 cured with UFC81 is particularly useful for small castings or electrical potting when a low viscosity resin is needed. This system will cure at room temperature although mild heat will expedite the cure and produce a better surface on the casting. This system is not recommended for continuous exposure above 250°F.

UFC4010与UFC81组合，特别适用于低粘度树脂在很小范围的浇铸或者电气灌封。室温即可固化，也可采用稍热温度加速固化并增加表面效果。不推荐250°F以上的连续加热工艺。

Mix ratio To 100 parts by weight of UFC4010, add 50 parts by weight UFC81.

混合比

Pot life 45 minutes

适用时间

Mixed Viscosity 7000 cps

混合粘度

Cure 24 hours at 75°F or 2 hours at 150°F, or 1 hour at 180°F

固化时间

Shore hardness (Shore D) 84

肖氏硬度

USE INFORMATION WITH UFC30 与UFC30合用

UFC4010 cured with UFC30 is particularly useful for small castings or electrical potting when a low viscosity resin is needed. This system requires a moderate heat cure. It produces a tough, clear coating or casting.

UFC4010与UFC30固化，特别适用于低粘度树脂的微型浇铸或者电子类灌注。工艺过程需要稍加温度，可形成结实又透明的涂膜或铸型。

Mix ratio: To 100 parts by weight of UFC4010, add 35 parts by weight UFC30.

混合比

Pot life: 45 minutes

适用时间

Mixed Viscosity: 7000 cps

混合粘度

Cure: 2 hours at 160°F, or 1 hour at 180°F

固化时间

Shore hardness (Shore D): 80

肖氏硬度

USE INFORMATION WITH UFC66 与UFC66合用

UFC4010 cured with UFC66 is particularly useful for small to medium sized castings or electrical potting when a low viscosity resin is needed. This system will cure at room temperature although mild heat will expedite the cure and produce a better surface on the casting. This system is not recommended for continuous exposure above 250°F.

UFC4010与UFC66固化，也特别适用于低粘度树脂的微型浇铸或者电子类灌注。室温即可固化，也可采用稍热温度加速固化并增加表面效果。不推荐采用250°F以上的持续加热工艺。

Mix ratio: To 100 parts by weight of UFC4010, add 55 parts by weight UFC66.

混合比

Pot life (at 77°F): 6 hours

适用时间

Mixed Viscosity: 5000 cps

混合粘度

Cure: 48 hours at 75°F or 2 hours at 150°F, or 1 hour at 180°F

固化时间

Shore hardness (Shore D): 84

肖氏硬度

USE INFORMATION WITH UFC29 与UFC29合用

UFC4010 cured with UFC29 is particularly useful for small castings or electrical potting when a clear, low viscosity resin is needed. This system requires a moderate heat cure. Four hours at 150°F or 1 hour at 180°F will cure small castings or films. For a larger mass, allow the material to form a gel at room temperature before using any heat. The resultant plastic is clear and flexible. This system is not recommended for continuous exposure above 200°F.

UFC4010与UFC29合用固化，也用于低粘度透明树脂的微小型浇铸或者电子类灌注。工艺过程需要稍加温度，150°F的条件下4个小时固化，180°F则1个小时。如果采用大量灌注工艺，需要于加热之前在室温条件下完成原材料胶化，塑料成品清晰且有弹性。不推荐采用200°F以上的持续加热工艺。

Mix ratio: To 100 parts by weight of UFC4010, add 50 parts by weight UFC29.

混合比

Pot life: 3 hours

适用时间

Mixed Viscosity: 500 cps

混合粘度

Cure: 3 hours at 150°F, or 1 hour at 180°F

固化时间

Shore hardness (Shore D): 80

肖氏硬度

USE INFORMATION WITH UFC53/ UFC80 与UFC53和UFC80合用

UFC4010 cured with UFC53, using UFC0080 as an accelerator, is useful for impregnation and casting applications. This is a high temperature system which requires a high temperature cure. The amount of UFC80 used determines the pot life and duration of the required cure. The combination of low viscosity and long pot life, even at high temperatures, make this an ideal impregnation system.

UFC4010 与UFC53合用时，UFC80是催化剂，用于高温固化的灌封和浇铸。UFC80的使用量决定工艺中树脂材料的适用时间和适应能力。因为其低粘度，适用时间长，不受高温影响的特点，被认为是非常理想的树脂灌注工艺。

Mix Ratio: To 100 parts by weight of UFC4010, add 90 parts by weight UFC53 and 1 part by weight UFC80.

(Note: The amount of UFC80 used is variable. More than 1 part by weight will speed the reaction, less will slow it.)

混合比：按重量，UFC4010:UFC53:UFC80= 100: 90: 1 (UFC80的使用量可调。多一份重量，反应速度会加快。反之速度减慢。)

Pot life 4-5 days (Depends on amount of UFC80 used)

适用时间

Mixed Viscosity (cps): 1700

混合粘度

Cure: 2 to 24 hours at 150°C

固化时间

USE INFORMATION WITH UFC54 与UFC54合用

UFC4010 cured with UFC54, is useful for adhesive and coating operations where a fast curing epoxy system is required. It can be used for very small castings but is very exothermic, so only small quantities should be allowed to cure at one time.

UFC4010与UFC54固化，适用于需要快速树脂固化的粘胶工艺和涂膜工艺。可做超微量成型但放热较大，因此一次操作只适合一次成型。

Mix Ratio: To 100 parts by weight of UFC4010, add 40 parts by weight UFC54. (Note: The mixture is highly exothermic. Do not mix more material than can be used in 8 to 10 minutes.

混合比: UFC4010: UFC54= 100: 40 (混合过程放热很大, 一次混合量不要超过8-10分钟的成品生成量)

Pot life 5-9 minutes

适用时间

Mixed Viscosity (cps)

混合粘度

Cure 1 to 2 hours at 25°C

固化时间

USE INFORMATION WITH UFC14/ UFC13 与UFC14/UFC13合用

UFC4010 cured with UFC14 produces a moderately fast room curing plastic that is extremely strong and temperature resistant as compared to other room temperature curing systems. Chemical resistance is excellent against most solvents and fuels. This system is quite exothermic during its cure, its use is limited to small castings, adhesives and coatings.

UFC4010与UFC14, 室温下可较快完成固化, 生成强度高且耐温的塑料成材, 是其他同类产品中的佼佼者。对大多数溶剂和汽油剂具有很高的耐化学腐蚀特性。

UFC13 is similar to UFC14. Use at a mix ratio of 100/8 by weight. UFC13 has a higher vapor pressure than UFC14 and so is more dangerous to health. UFC13 is seldom a good choice because UFC14 produces a very similar plastic with less health hazard.

UFC13 与 UFC14 特性类似, 混合比(按重量)为 100: 8。但是 UFC13 有较高的蒸汽压, 对健康易产生危害, 不是树脂合成的首选。

Color: Clear - Slight Amber

颜色

Pot life (minutes) 25-35

适用时间

Initial mixed viscosity (cps) <1000

初始混合粘度

Mix Ratio (UFC4010/UFC14) 100/10-12 (Most applications use 100/10 as a mix ratio)

混合比 (UFC4010/UFC14)

Density of cured casting 1.19

USE INFORMATION WITH UFC77 与UFC77合用

UFC4010 cured with UFC77 produces a fast room curing plastic that is extremely strong and chemically resistant as compared to other room temperature curing systems. Chemical resistance is excellent against most acids and bases. This system is quite exothermic during its cure, its use is limited to small castings, adhesives and coatings.

UFC4010与UFC77可生成室温固化塑料, 成品强度高且耐化学腐蚀(特别对酸和碱), 也是其他同类产品的佼佼者。但是因为放热很大, 仅限于小型浇铸, 黏合和成膜工艺。

Color: Amber/Clear

颜色

Pot life (minutes) 8-10

适用时间

Initial mixed viscosity (cps) <1000

初始粘度

Mix Ratio (UFC4010/UFC77) 100/25

混合比 (UFC4010/UFC77)

Density of cured casting: 1.19

固化后密度

USE INFORMATION WITH UFC612 与UFC612合用

UFC4010 cured with UFC612 produces an exceptional tough, resilient, thermal shock resistant and outstanding impact resistant room temperature curing plastic. It has good electrical properties and outstanding adhesion.

Chemically resistant, as compared to other room temperature curing systems, is moderate. This system is exothermic during its cure, its use is limited to small castings, adhesives and coatings.

UFC4010与UFC612可室温条件下生成强度、弹性、抗热震性以及抗冲度都特别高的固化塑料。具有优良的电学特性和黏合性。但与同类产品相比，耐化学腐蚀性则一般。因为是放热反应，仅限于采用小型浇铸、黏合和成膜工艺。

Color Amber/Clear

颜色

Pot life (minutes) >60

适用时间

Initial mixed viscosity (cps) <3000

初始混合粘度

Mix Ratio (by weight, UFC4010/UFC612) 100/30

混合比 (按重量, UFC4010/UFC612)

Density of cured casting: ~1.09

固化后密度

DANGER 提示危险

For Industrial Use ONLY/ Keep Container Closed/ Do Not Reuse this Container

仅限于工业使用/ 保持包装紧闭/ 勿循环使用包装

- May cause irritation.
- 导致刺激奇痒
- Do not get in eyes, on skin or clothing.
- 勿接触皮肤、眼睛或者衣物
- Do not inhale vapors.
- 勿吸入该气体
- Wear rubber gloves & aprons.
- 配戴橡胶手套和防服
- Use with adequate ventilation.
- 保持空气畅通

- Wash thoroughly after handling.
- 工作完成之后应彻底清洗
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FIRST-AID 紧急处理

- Eyes -Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- 眼睛- 立即用大量的清水进行清洗至少15分钟，并及时就医。
- Skin- Wash immediately with soap and water.
- 皮肤- 立即用皂和水冲洗。
- Clothing - Remove clothing and wash before reuse.
- 衣物- 脱下清洗。