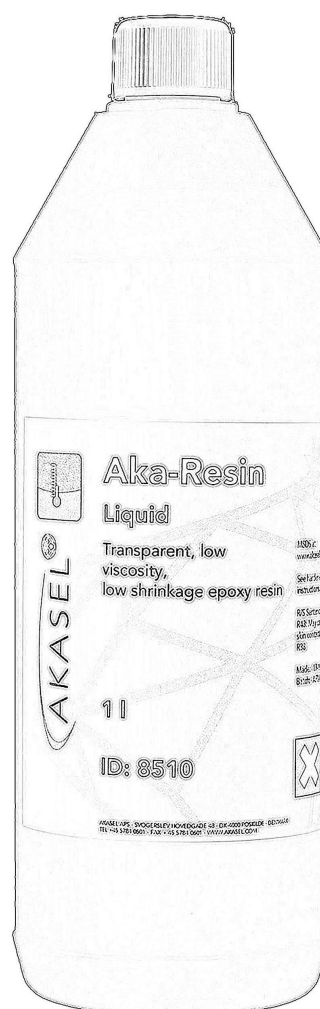
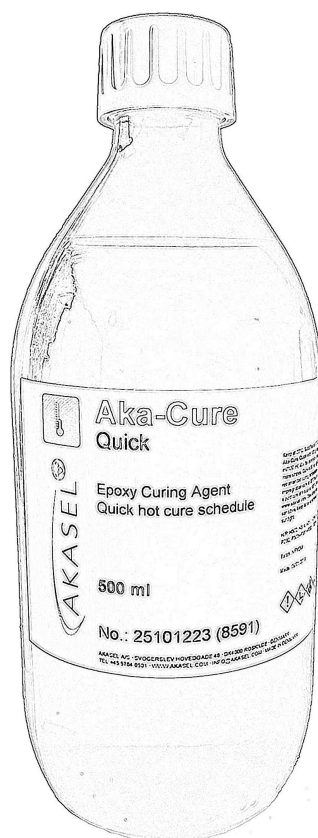


Akasel User Guide

Aka-Cure Quick



Introduction

介绍

Aka-Cure Quick is an epoxy hardener to be mixed with Aka-Resin Liquid Epoxy.

Aka-Cure Quick是与Aka-Resin Liquid Epoxy混合使用的树脂固化剂。

It is a hardener with a fast curing schedule, curing is initiated at an elevated temperature starting at 80°C. Curing takes about 30 minutes, depending on the size of the mount.

这种固化剂的固化过程很快，固化过程从80°C的高温开始，固化过程时间长短取决于镶样的尺寸，需要约30分钟。

Safety Precautions

安全预防措施

- Avoid contact with resin, hardeners and mixed epoxy. Wear protective nitrile gloves and protective clothing whenever you handle epoxies. If you do get resin, hardener or mixed epoxy on your skin, remove it as soon as possible. The resin is not water soluble—use a waterless skin cleanser to remove resin or mixed epoxy from your skin. The hardener is water soluble—wash with soap and warm water to remove hardener from your skin. Always wash thoroughly with soap and warm water after using epoxy. If you spill epoxy on your clothes, change them immediately.

避免接触树脂、固化剂和混合后的树脂。在任何处理树脂的时候，戴防护性乳胶手套，穿防护服。如果你皮肤上粘上了树脂、固化剂或者混合后的树脂，你应该尽快除去。树脂不是水溶性的，你应该用无水洁肤乳来洗去皮肤上的树脂或者混合树脂。固化剂是水溶性的，可以用肥皂和热水洗去粘在皮肤上的固化剂。在使用树脂后，一定要用热水和肥皂彻底清洗。如果树脂溅到衣服上了，应该立即把衣服换了。

- Protect your eyes from contact with resin, hardeners and mixed epoxy by wearing appropriate eye protection.
应该带防护性眼镜，避免眼睛接触到树脂、固化剂或混合后的树脂。
- Avoid breathing concentrated vapours.
避免吸入浓度高的树脂蒸汽。
- Avoid ingesting epoxy. Wash thoroughly after handling epoxy, especially before eating or smoking.
避免直接咽下树脂。在处理树脂后，特别是在进食或者吸烟前，应彻底清洗。

For additional information find the SDS of Aka-Cure Quick and Aka-Resin Liquid Epoxy here:

<https://www.akasel.com/sds-pds/>

在这里你可以下载Aka-Cure Quick和Aka-Resin 液态树脂的SDS来了解更多信息：

<https://www.akasel.com/sds-pds/>

Mixing Ratio

混合比例

It is important to use the correct and precise mixing ratio and therefore measuring by weight is recommended.

使用精确的配比非常重要，所以推荐称重测量。

Mix 26.3 parts by weight of Aka-Cure Quick with 100 parts by weight of Aka-Resin.

混合26.3个重量单位的Aka-Cure Quick和100个体积单位的Aka-Resin。

If weighing is not possible, mix 30 parts by volume of Aka-Cure Quick with 100 parts by volume of Aka-Resin.

如果不能称重，混合30个体积单位的Aka-Cure Quick和100个体积单位的Aka-Resin。

Too much or too little hardener will result in mounts not cured to their full potential and is not recommended.

太多或者太少的固化剂将导致镶样不能固化到最理想的状态，所以不推荐。

How Much Should I Mix?

应该混合多少？

Mix as a minimum 25 g to obtain a good precision in your mixture, but mix only an amount that can be used within the pot life of about 2 hours.

为了混合物的高测量精度，最少混合25克；只混合在活化寿命约2小时内会使用的量。

Calculating the amount of Hardener and Resin

计算固化剂和树脂的量

If you need to produce a certain amount of epoxy mixture Z [g], this can be calculated using the following formula:

如果你想混合一定量的树脂混合物，可以用下面的公式计算：

$$\text{Aka-Cure, Quick [g]} = Z [\text{g}] \times 0.2079$$

$$\text{Aka-Resin [g]} = Z [\text{g}] \times 0.7921$$

Example: Mixture Z = 100 g:

例如：Mixture Z = 100 g:

$$\text{Aka-Cure Quick:} \quad 100 \times 0.2079 = 20.79 \text{ g}$$

$$\text{Aka-Resin Liquid Epoxy:} \quad 100 \times 0.7921 = \underline{79.21 \text{ g}}$$

$$\text{Aka-Resin 液态树脂} \quad 100 \times 0.7921 = \underline{79.21 \text{ g}}$$

$$\text{Total} \quad = 100.00 \text{ g}$$

$$\text{总计} \quad = 100.00 \text{ g}$$

Mixing

混合

Measure first the resin then the hardener in a reusable plastic cup. (Paper cups should only be used if they are made for this purpose, like the cups included in our Cold Mounting Mixing Kit¹)

用一个可以重复使用的塑料杯先称树脂，然后称固化剂。（如果使用纸杯，只能用于混合树脂专门制作的纸杯，如在我们的Cold Mounting Mixing Kit里面的纸杯）

Mix slowly (in order not to introduce air bubbles) but thoroughly until the mixture is clear without stripes. Spilled epoxy can be washed off the table or mounting cups with ethanol.

缓慢混合（避免引入气泡），同时要混合彻底直到混合物清澈透明没有条带现象。溅到桌子或镶杯上的树脂可以用酒精洗去。

For skin contact see above.

如果皮肤接触到树脂，参见前面信息。

Pouring

倾倒

Pour the mixture slowly into the mounting cup, without trapping air around the sample. You can use the mixing stick to direct the mixture over the sample.

将混合树脂缓慢的倒入镶杯中，避免将样品周围的空气聚集于混合物中。你可以使用混合棒引导混合树脂直接流到样品上面。

Curing Schedule

固化步骤

Aka-Cure Quick is cured at 80°C for 30 min. by placing it in an oven. If Aka-Cure Quick is not subjected to an elevated temperature it will not cure completely.

Aka-Cure Quick固化需要在炉子中进行，80摄氏度30分钟完成固化。如果不在高温下，Aka-Cure Quick不能完全固化。

Pot-life

活化寿命

The pot-life of the mixture is up to 2 hours.

混合物的活化寿命可以达到2小时。

Covering the Samples

盖住样品

¹ Ordinary paper cups are normally coated on the inside to make them waterproof. This layer is often soluble in epoxy, resulting in the mixture seeping through the cup after a while.

¹ 普通的纸杯内侧有防水涂层。这种涂层可以溶解在树脂中，导致混合树脂后面能渗进搅拌杯中。

Covering the mounting cup with a piece of paper/plastic or a mixing cup will prevent the attraction of moisture and thus stop the top of the mount from becoming sticky.

用一片纸/塑料或者混合用的杯子盖住镶杯，这样能够阻止镶样从空气中吸入湿气，从而防止镶样表面变黏。

Curing Develops Heat

固化产热

During curing additional heat is generated, therefore the mount gets hotter than the 80°C in the oven. Peak temperature will be between 180°C and 210°C depending on the size of the mount. If heat sensitive specimens are mounted, pre-curing for 24 hours at room temperature is recommended, followed by a post-cure at 100°C for an hour. This will make sure not to expose the sample to higher temperatures than 100 °C

在固化过程中，会产生额外的热量，所以镶样在炉中的温度会高于80摄氏度。最高温度取决于镶样的尺寸，将介于180到210摄氏度之间。如果是镶热敏感材料的样品，推荐预先在100摄氏度固化24小时，然后在100摄氏度后续固化1个小时。这将保证样品的温度不会高于100摄氏度。

If even lower curing temperatures are required, please use Aka-Cure, Slow.

如果需要进一步降低固化温度，请使用Aka-Cure Slow。

Very Large Samples

非常大的样品

A unique feature of Aka-Cure, Quick is the ability to pre-cure without developing heat. This makes Aka-Cure, Quick ideal for very large mounts.

Aka-Cure Quick的一个独到之处就是可以在不产热的情况下预固化。这使得Aka-Cure Quick非常适合镶非常大的样品。

Mount your sample as usual, but leave the filled mounting cups to cure at room temperature. After 24 hours when the mount is pre-cured, a post-cure at 100°C for 1 hour is performed.

正常镶嵌你的样品，但是让装满的镶杯在室温固化。24小时以后镶样预固化完成，然后在100摄氏度后续固化1小时。

This post-cure is absolutely necessary as curing at room temperature leaves the epoxy in a not fully cured state. The mounting material is very clear/transparent with no sign of overheating and no sticky top surface, however, the mounting material is not suitable for preparation of samples as it is very brittle if not heated to 100 °C for an hour. The mount can be further strengthened by curing at 150°C for another hour.

后续固化过程是绝对必要的，因为在室温固化的过程不能让树脂完全固化。如果没有在100摄氏度后续固化1小时，镶样材料非常干净透明，没有过热的痕迹，没有黏的表面，然后这样的镶样不适合用来制备样品，因为它特别的脆。可以在150摄氏度再固化1小时来加固镶样。

Extracting

取镶样

Due to the low shrinkage and the adhesion to almost all types of surfaces, the cured epoxy mount also sticks to the surface of the mounting cup. Here are some tips on extracting the cured mount from the form.

由于树脂的低收缩性和在所有类型表面的粘附性，固化后的树脂镶样会粘在镶杯上面。下面是怎么从镶杯里取出镶样的一些技巧。

Before pouring the mixed epoxy into the mounting cup, the sides and the bottom part of the mounting cup can be treated with a release agent like Aka-NoStick Liquid. The resulting film acts as a release film and makes it easier to extract the cured mount.

在将混合树脂倒入镶杯之前，镶杯的侧面和底部需要涂上像Aka-NoStick Liquid这类脱模剂。生成的膜是脱型膜，从而使得我们能更容易取出固化的镶样。

Remove the bottom part of the mounting cup, then apply pressure to the side of the mounting cup to loosen the mount.

把镶杯的底部取下来，然后将在镶杯侧面施力，这样就能使镶样松动。

Then press the mount out through the bottom opening as the mounting cups are slightly conical. 因为镶杯是微圆锥形，然后将镶样从底部推出来。

Impregnation

倾倒

The mixture of Aka-Cure Quick and Aka-Resin Liquid Epoxy is easy flowing and has a low surface tension which makes it fill small porosities and cracks in porous samples on its own. Combined with a pot-life of about 2 hours, porous samples can often be impregnated without having to use vacuum impregnation.

Aka-Cure Quick和Aka-Resin 液态树脂的混合物流动性非常好，表面张力也小，这样混合物树脂就能很容易流入样品中的空洞和裂纹。因为长达2小时的活化期，即使没有真空浸渍，多孔隙样品的孔隙中也可以被注入混合树脂。

Impregnation Using Vacuum

使用真空浸渍

When the cracks or pores are very small, air will adhere to the wall of the pores and prevent the epoxy from wetting the surface. Then it becomes necessary to empty the pores for air by using vacuum impregnation.

如果样品中裂纹和孔隙非常的小，空气会粘附在孔隙和裂纹的表面，从而阻止混合树脂湿润孔隙和裂纹的表面。这时候就需要用真空浸渍将样品中所有空气抽出。

In vacuum impregnation, the mounting cup with the porous sample is placed in a vacuum unit, the air is pumped out and the pores with access to the sample surface are thus emptied. After evacuation is completed, epoxy resin is led into the vacuum chamber and the mounting cup is filled. Now the sample is completely covered with epoxy that can fill the empty cracks and pores. When atmospheric air is allowed back into the vacuum chamber, the air is pressing the epoxy into the

cracks and pores connected to the surface. This can further be strengthened by placing the sample in a pressure chamber for curing.

真空浸渍时，将装有多孔隙样品的镶杯放在真空室中，用泵将空气抽出，样品表面的孔隙中的空气就都被抽走了。抽真空完成以后，混合树脂被引入到真空室中并填满镶杯。此时，样品完全被树脂包围了，这时树脂可以进入到表面的裂纹和孔隙。将样品放入用来固化的压力仓里，效果能更好。

The best vacuum devices allow placing only the mounting cups with the samples under vacuum. Hereby the sample can be evacuated for hours at the lowest possible pressure without boiling off components of the resin-hardener mixture.

最好的真空设备在真空下只允许放入装有样品的镶杯。这样样品就可以置于抽真空过程几个小时，从而达到最可能低的压强，并且不会使得树脂和固化剂混合物蒸发。

Refractive Index

折射率

The refractive index of the cured mix is: $1,563 \pm 0,001$.

固化的混合物折射率为 $1,563 \pm 0,001$.

Additional Information

附加信息

To see the entire process in detail you can watch our video The correct use of Epoxy Cold Mounting Resins on YouTube:

你如果想看整个详细的冷镶过程，请在YouTube看视频Epoxy Cold Mounting Resins：

<https://youtu.be/PchzrYkKtl4> 或者



Lifetime

使用寿命

When stored correctly, at about 22°C in a dark place, the lifetime of both resin and hardener is at least 2 years from the production date.

在黑暗环境22摄氏度正确储存时，丙烯酸粉末和液体的使用寿命是生产后2年。

After opening, the lifetime is 1 year when the lid is tightened securely immediately after each use and the bottle is stored at about 22°C in a dark place.

在打开盖子以后，如果每次使用后都立即盖紧盖子，且储存在22摄氏度的黑暗环境中，使用寿命为1年。

Should the hardener crystallise due to transportation or storage at too low temperatures, it can be heated in a water bath to about 40°C to dissolve the crystals again.

由于在运输或者存储过程中的低温造成的固化剂结晶现象，可以在40摄氏度水浴中加热，晶体就能溶解。

When the resin shows some white sediment due to storage at low temperatures it can be heated in a water bath to about 40°C to dissolve the sediment again.

由于存储过程的低温造成的树脂有白色沉淀物，可以在40摄氏度水浴中加热，沉淀物就能溶解。