Hot Mounting Material



一、Introduction

The series of hot mounting materials produced by our company are suitable for mounting machines of various models and specifications at home and abroad.

All metallographic mounting series products are made of special materials and special additives according to the characteristics of metallographic samples. After mounting, it is firmly and tightly combined with the sample, and it is not easy to create a gap with the edge of the sample, so as to avoid various external interferences.

二、Technical specifications

Products	PT-2231	BB-2232	TM-2235	TM-2261	EP-2237	DC-2239	MA-2275
Description	Phenoloc Resin	Glass fiber filled Phenolic	Transparent	Transparent	Glass fiber filled Epoxy	Conductive	Mineral filled melamine resin
Components	black/red/green grit	black grit	white powder	White powder	black grit	Black-Brown Grit with powder	light yellow to White powder
Heat time	4-6min	4-6min	6-8min	6-8min	5-7min	4-6min	4-7min
Cooling time	2-3min	2-3min	7-10min	7-10min	4-6min	4-6min	5-8min
Cooling speed	High / Medium	High / Medium	Low	Low	Medium	High	Medium
Pressure	100-300bar	100-150bar	100-150bar	100-150bar	100-300bar	100-300bar	100-300bar

Heat temperature	150-180℃	140-180℃	160-180℃	160-180℃	150-180℃	150-180℃	150-180℃
Hardness (Shore D)	85-90	90-93	85-87	85-87	90-93	90-92	88-90

*The above parameters is base on Φ30mm mold.

PT 2231

Features: Low price, black,green and red phenolic grit.

Application: For routine applications suit for most products.

BB 2232

Features: Extreme hardness, very good grinding and polishing properties, does not stick on embedding instruments,non adherent.

Application: All hard materials, e.g. hardened gears, hard metals and ceramics.

TM 2235

Features: Very thin melts rapidly.

Application: Complete embedding solution for thin layers, top layer for specimen labeling.

TM 2261

Features: Transparent and very clear.allows easy sample observation.

Application: Same as TM 2235 and can be dissolved by Trojan special solvent.

EP 2237

Features: Thin, extreme hardness, optimal edge connection, good adhesion to the specimen surface, very good grinding and polishing properties.

Application: All hard materials, e.g. hard gears, metals and ceramics.

DC 2239

Features: Excellent conductive, voltage loss almost eliminated completely.

Application: SEM analysis.

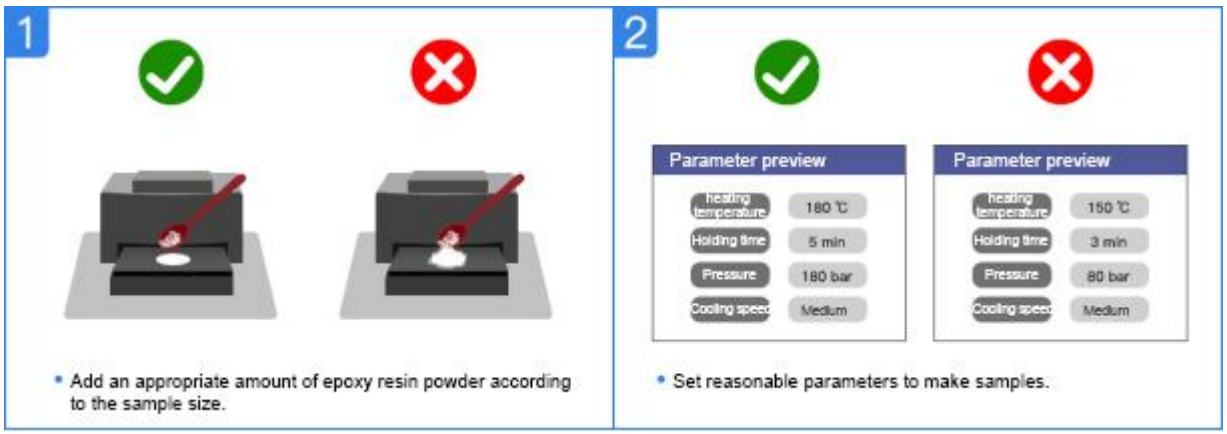
MA 2275

Features: High hardness, optimum edge connection, good adhesion to the sample surface, very good grinding and polishing properties, suitable for black surface specimen.

Application: Medium hard materials like normal hard metals, steel in general, aluminum, copper materials, etc.

三、Instructions

1. Add an appropriate amount of epoxy powder according to the sample size.
2. Set reasonable parameters to make samples.



四、Precautions

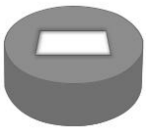
1. It is recommended to spray mold release agent on the upper and lower anvils of machine when necessary to prevent the sample from being difficult to remove after the hot mounting is completed;

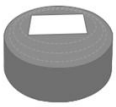
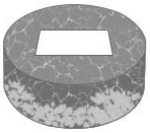
2. The distance between the specimen and the cylinder wall must be a minimum of 3 mm to avoid cracks in the resin. This is especially critical for specimens with sharp corners;

3. To obtain the best bonding properties, it is advisable to clean, dry and degrease the specimen before mounting;

4. The resin should be used within the shelf life, and the resin should be covered and sealed after each use.

五、Common mounting problems and solutions

<table>
<tr><th colspan="3">Problems</th></tr>
<tr>
<td>Radial Crack
Reason: Insufficient distance between specimen edge/corner and cylinder wall, or specimen has sharp corners.
Solution: Increase cylinder diameter or reduce specimen size. The distance between the specimen and the cylinder wall must be a minimum of 3 mm to avoid cracks in the resin. This is especially critical for specimens with sharp corner
</td>
<td>Shrinkage
Reason: Incorrect selection of resin.
Solution: Re-mount a new specimen using a resin with a lower linear shrinkage value.
</td>
<td>Blistering
Reason: Insufficient heating time.
Solution: Increase heating time or the process temperature.
Reason: Over-cured surface.
Solution: Decrease process temperature.
Reason: Entrapped gas within mount.
Solution: Preheat the resin.
</td>
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<tr>
<td>Bulging
Reason: Insufficient cooling.</td>
<td>Porosity
Reason: Excessive temperature.</td>
<td>Dull surface finish
Reason: Insufficient heating time.</td>
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Solution: Increase the cooling time. 	**Solution:** Reduce process temperature. 	**Solution:** Increase heating time. 
Voiding within Large Mounts **Reason:** Insufficient heating time. **Solution:** Increase heating time. **Reason:** Excessive temperature. **Solution:** Reduce process temperature. **Reason:** Insufficient force/pressure. **Solution:** Increase mounting force/pressure. 	**Adhesion between sample and rams** **Reason:** Insufficient application of mould release agent. **Solution:** Apply mould release agent. This must always be applied to the mounting rams as a thin layer before the mounting process begins. This prevents the resins from sticking to the rams and makes it easier to remove the mounts afterwards. **Reason:** Insufficient heating time. **Solution:** Increase heating time. **Reason:** Force/pressure is too high. **Solution:** decrease force/pressure 	**Individual Grains Visible on Mount*** **Reason:** Resin has cured without force/pressure. **Solution:** Increase force/pressure during heating cycle. **Reason:** Insufficient heating time. **Solution:** Increase the heating time and/or temperature. * Thermosetting resins only. 

六、Storage method

1. Store the hot mosaic in a cool, ventilated place, out of direct sunlight.
2. It should be covered and sealed after each use.