

**Uni Worldwide
Resources
Sdn. Bhd.
Penang, Malaysia.**

TECHNICAL DATA SHEET FOR
Tool Cleaning
And
Waxing Master

Tool Cleaning And Waxing Master



Photo 1

**TOOL CLEANING
MASTER FOR IC TOOL**

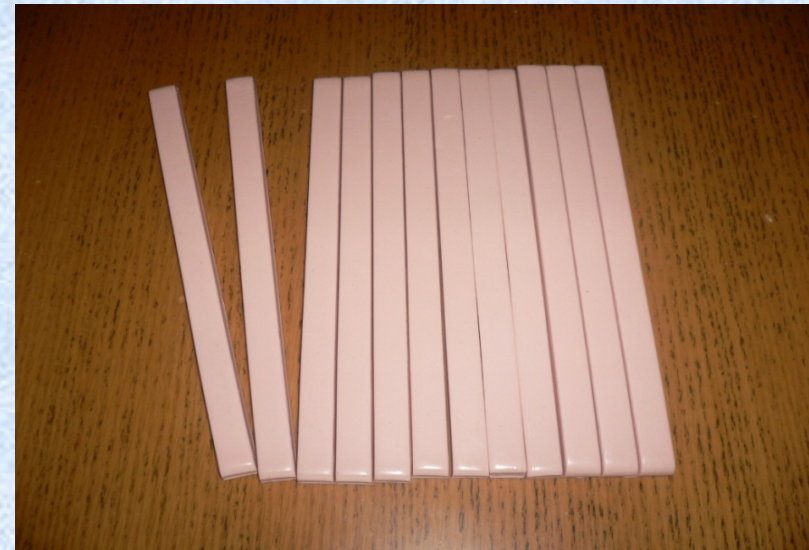


Photo 2

**TOOL WAXING
MASTER FOR IC TOOL**

General Information : Tool Cleaning And Waxing Master

- Main raw material: Special blend of Synthetic rubber sheets
- Purpose: For cleaning and waxing the contaminated mold cavities
- **Rohs** compliance

General Information : Tool Cleaning And Waxing Master

- ❖ Does not have any abrasive components which might damaged mold surface.
 - ❖ Does not require any supplementary material, such as dummy lead frame during the process of cleaning.
- ❖ Unlike normal transfer cleaning which require high usage of lead frame for each cleaning process and taken longer time to clean.

General Information : Tool Cleaning And Waxing Master

- ❖ Excellent Workability => Easy/Simple setting.
- ❖ Excellent Removability of contaminates.
- ❖ By using Tool Cleaning Master & Tool Waxing Master, mold maintenance issues like dented mold cavity and broken pins will be much minimized.

❖ Superior Cleaning Function

ADVANTAGES

- ❖ Cost Reduction on material (by reducing reject %)
- ❖ Reduction of Cleaning Time will increase the productivity of the manufacturing plant.
- ❖ Simple and easy cleaning procedures
- ❖ Easy and better maintenance
- ❖ Shorter Pre-heating time.
- ❖ No lead frames using

Productivity



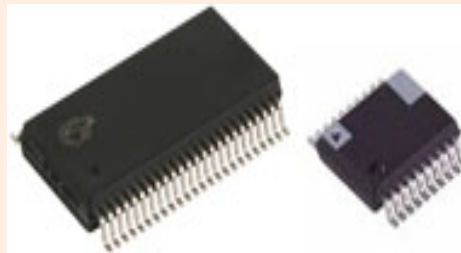
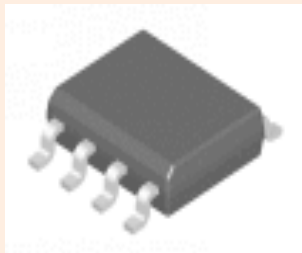
Specification/Properties

Description	Unit	Tool Cleaning Master	Tool Waxing Master
Appearance	-	White	Pink
Specific Gravity	g/cc	1.15 ± 0.05	1.20 ± 0.05
Mooney Viscosity	-	150 ± 30	125 ± 20
Tensile Strength	kgf/cm ²	> 40	➤35
Elongation	%	> 50	>50
Smell	-	Scent of Lemon	Scent of Lemon

Table 1

Application

- For Package types :-
 - » PSOP, TSOP, TSSOP, etc.
 - » SOIC, SSOP, QFP, etc.
 - » DIP,PDIP, SOJ, etc.
 - » BGA & QFN, etc.
 - » PLCC etc.



Application

- For Compound Type
 - » Low grade compound such as
 - EME1100, EME6300-6710.
 - » High grade compound such as
 - EME 7351, MP8000, CEL 9200, MG18, etc.
 - » Green type compound such as
 - G700L, G760L, G770L, Hitachi HF & G series, etc.

Compound such as Hitachi, Nitto, Sumitomo, Hysol, Plaskon, Kyocera, Shinetsu etc have been experienced with our rubber sheet as cleaning agent for mold cleaning process.

Mold Parameter : Auto Mold

Description	Tool Cleaning Master	Tool Waxing Master
Mold Temp (deg C)	180 +/- 10	180 +/- 10
Clamp Pressure (ton)	20 +/- 10	20 +/- 10
Cure Time (sec)	300+/- 50	300+/- 50
No of shots	5 +/- 1	1 to 2

Table 2

For Auto Molding system like Towa, Dai-ichi, ASA etc, the clamping pressure should be adjust to 10 – 20 ton with no gap, or 0.5 to 1.0mm gap of daylight for rubber sheet thickness from 5 to 10 mm.

Mold Parameter : Conventional Mold (Single Pot or MGP type)

Description	Tool Cleaning Master	Tool Waxing Master
Mold Temp (° C)	180 +/- 10	180 +/- 10
Clamp Pressure kgf/cm ²	80 +/- 20	80 +/- 20
Cure Time (sec)	400+/- 50	400+/- 50
No of shots	5 +/- 1	1 to 2

Table 3

For Kotachi and Fujiwa conventional mold, best recommended clamping pressure = 80 kgf/cmsq.

Corrective Action











Description of Defects	Clamping Pressure	Cure Time	Mold Temperature	Mold Chase Gap	Loading Position	Loading Qty
Incomplete fill of molded rubber	Increase 	N.A.	N.A.	Shorten 	Adjust	Increase 
Sticking problem of molded rubber	Reduce 	Increase 	Increase 	Lengthen 	Adjust	Adjust
Uncured issue of molded rubber	Increase 	Increase 	Increase 	N.A.	N.A.	N.A.

Table 4

Special Notes : Setting Parameters

- Mold setting parameters provided in Table 2&3 are for general reference only.
- Accuracy of molding parameters to obtain optimum cleaning and waxing functions have to be fine tuned during first testing.
- Parameters may vary from one mold to another, depend on mold cavity design and type of compound used.

Cleaning Guidelines

- **Step 1: Molding parameter set up (refer to Table 2&3)**
- **Step 2: Check and decide loading position, size and quantity of rubber strips to load to mold chase**
- **Step 3: Place the Tool Cleaning Master rubber strip on the mold dies and close the press.**
- **Step 4: Remove the cured rubber sheets after mold dies opened and check any defects. If yes, please refer to Table 4 for corrective action guidelines.**
(Use air gun to blow the cured rubber sheet for ease of removal)
- **Step 5: Put the cured rubber sheet into zipper plastic bag and sealed it, scrap it with other waste then.**

Cleaning Guidelines

- **Step 6:** Repeat step 3 to 5 if cleaning process not completed thoroughly.
- **Step 7:** Repeat step 3 to 6 by using Tool Waxing Master rubber strips for waxing process.
- **Step 8:** Conduct dummy shots molding process.
- **Step 9:** Perform visual checking on dummy shots.

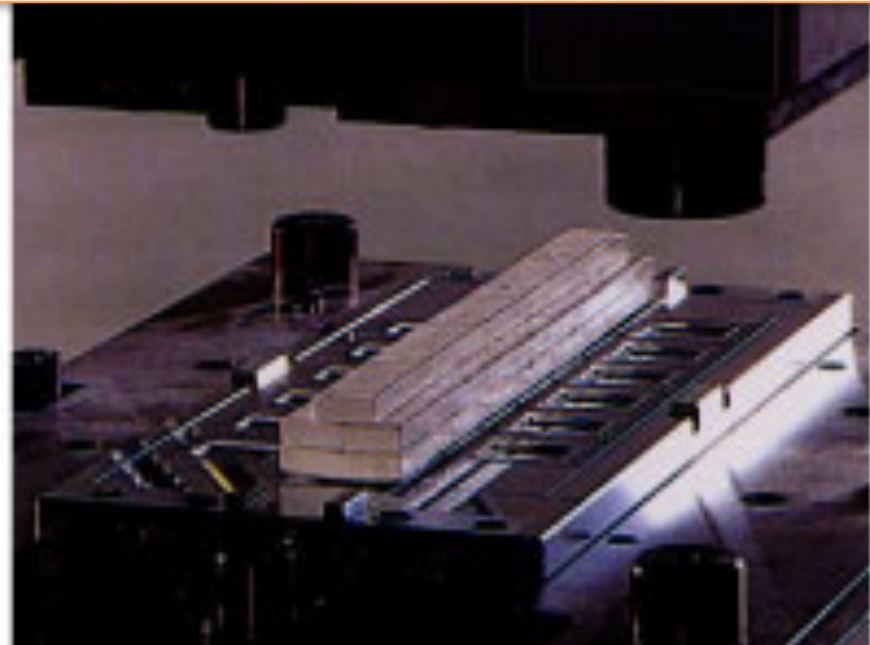
Cleaning / Waxing Photos

1



Molding die before Cleaning

2



Decide loading position, Strip size and quantity required.

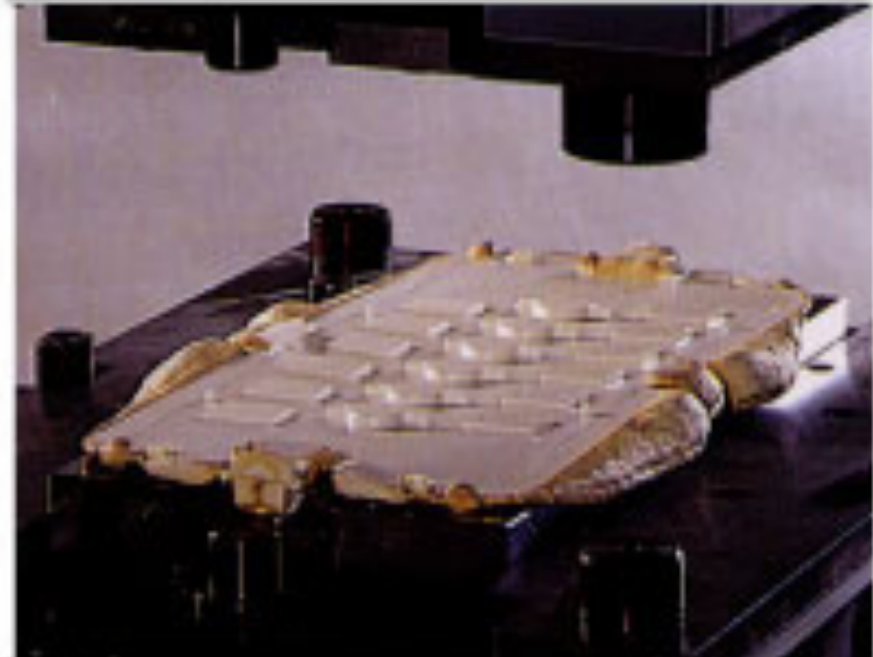
Cleaning / Waxing Photos

3



Compress and mold without totally closing the die. Leave 1mm +/- gap of daylight.

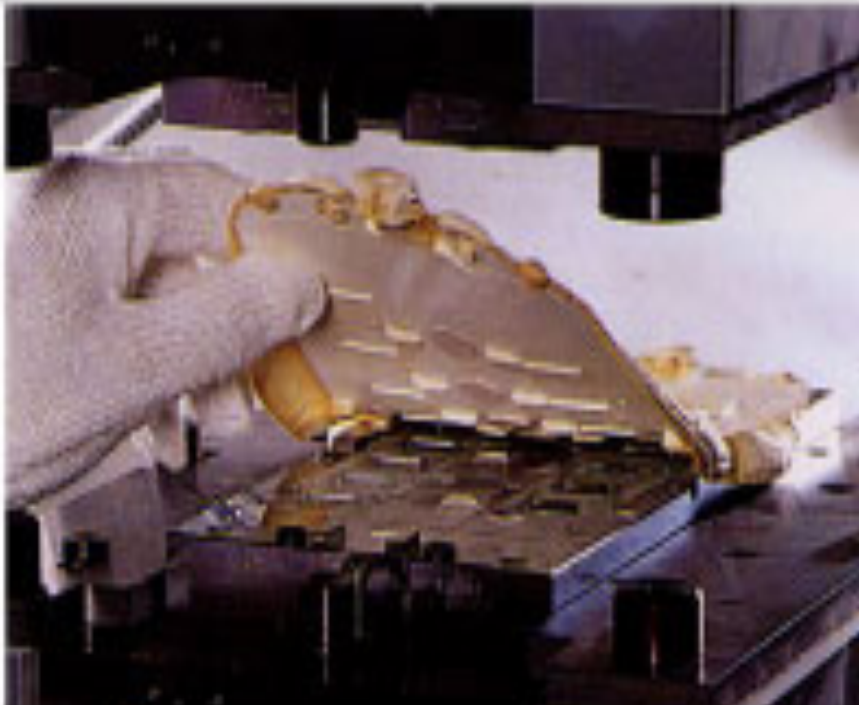
4



Open the mold after preset time.

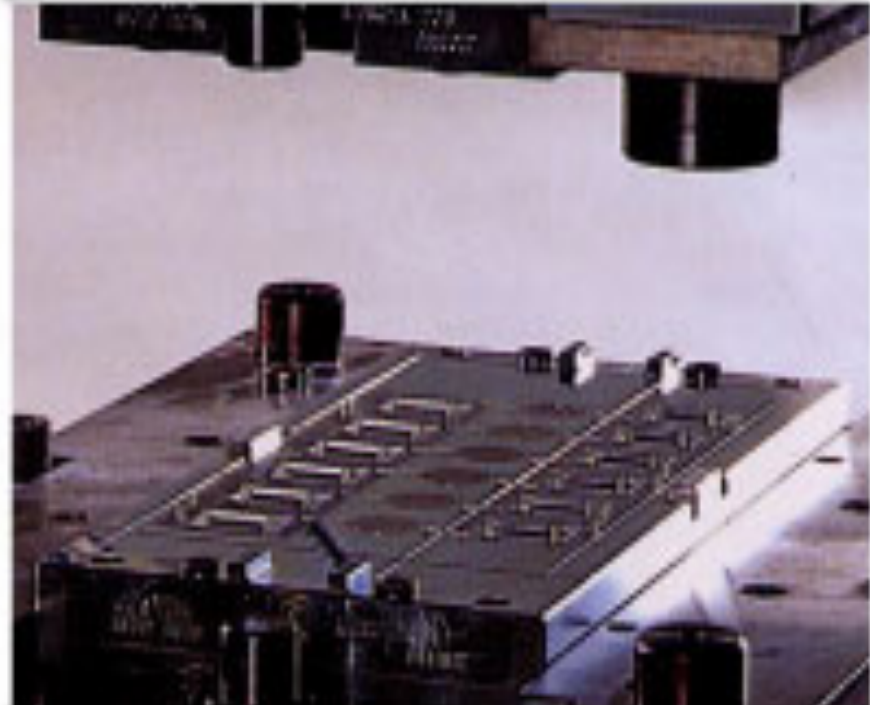
Cleaning / Waxing Photos

5



Remove the cleaning/waxing sheet that formed in one sheet.

6



Molding die after cleaning/waxing.

Rubber Strip Size : Tool Cleaning And Waxing Master

- All kind of rubber strip sizes in terms of length, width or thickness can be made according to machines and process requirements or our customer needs.
- Below shown as the minimum and maximum of strip sizes can be made:-
 - ❖ Length : 80 to 300 \pm 2.0mm
 - ❖ Width : 8 to 20 \pm 1.0mm
 - ❖ Thickness : 5 to 10 \pm 1.0mm

Storage

- Storage Condition : In good ventilation area.
- Avoid : Heat, Flame, Ignition sources.
Direct expose to sunlight.
- Storage Temperature : $< 25^{\circ}\text{C}$.
- Shelf life : 12 month @ $< 25^{\circ}\text{C}$ from mfg date.
- Storage method : Packed in seal bag $< 2\text{kgs}$.
Seal bags in carton $< 20\text{kgs}$.

Special Notes : Application on Hot Compression Molds for rubber products

- Cleaning Master and Waxing Master are suitable to apply on hot compression molds that are used to produce synthetic and natural rubber's products.
- The setting parameter of clamping pressure recommended would be :- 150 to 160 psi.

Photos : Cleaning sheet formed from rubber products hot compression mold



Contaminates were removed effectively and easily from the mold

Rubber sheet size for rubber product hot compression mold

❖ Length : $500 \pm 5\text{mm}$

❖ Width : $300 \pm 5\text{mm}$

❖ Thickness: 4.0 to 8.0 $\pm 0.5\text{mm}$

Photos : Cleaning sheets formed from Rheometer Lab machine die



1st shot



2nd shot



3rd shot

**Contaminates were removed effectively
and easily from the die**

Setting parameter for Rheometer lab machine die (for reference)

ing	Cleaning Master	Waxing Master
Curing Time (mins)	3 to 5 \pm 1	3 to 5 \pm 1
Mold Temp ($^{\circ}$ C)	175 \pm 5	175 \pm 5
No of shots	1 to 3	1 to 2