



***NARACHEM***



Global Top-Level

**Technology Leading Company**

in the field of functional polymer

## Existing Business

“Global Top of the Cleaning Rubber Products”

- Strengthen the global competitiveness of the existing business / Secure core technology for growth
- Develop next-generation cleaning technology

## New Business

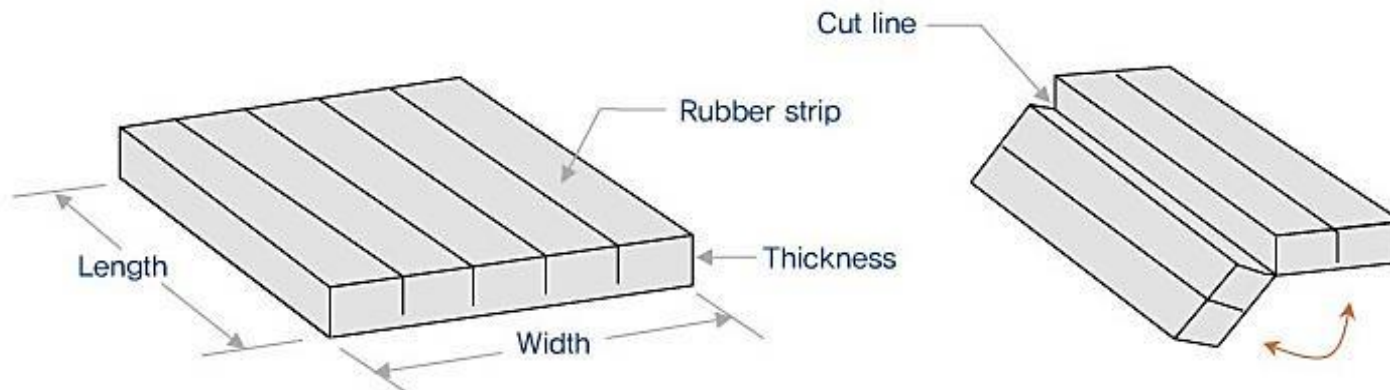
“The World’s First Commercialization of High-functional products”

- Oxygen barrier BOPP film resin (Super-Lami)
- Renewable eco-friendly cable insulation material
- Polyketone/Polyolefin adhesive resin etc.

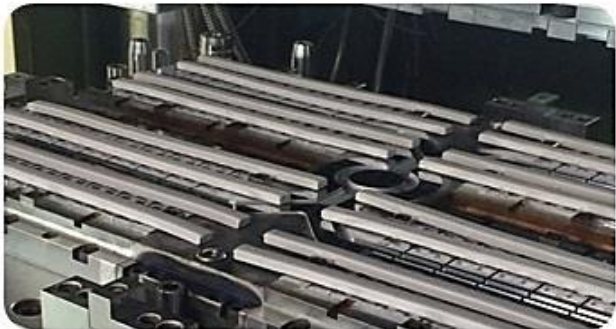


# NARACHEM Super Clean & Super Wax

Sortation	Mold Cleaning Rubber Sheet
Product	NARACHEM Super Clean & Super Wax
Purpose of Use	Super Clean is used for removing mold stains generated during semiconductor chip process. Super Wax, the mold releasing rubber is used for coating the surface with wax after stains are removed.
Application	Semiconductor chip processing industry
Material	Plate-form sheet (refer to the picture below)
Weight	10KGS PER BOX
SIZE	Manufactured according to the customers' needs



# Rubber Sheet - Procedures of application



① LOADING



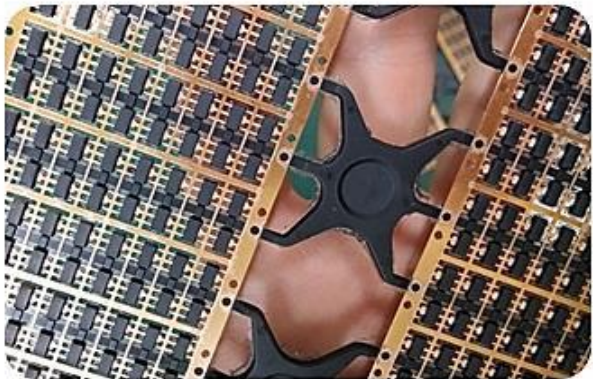
② PRESS



③ Super Clean 2~4 shots

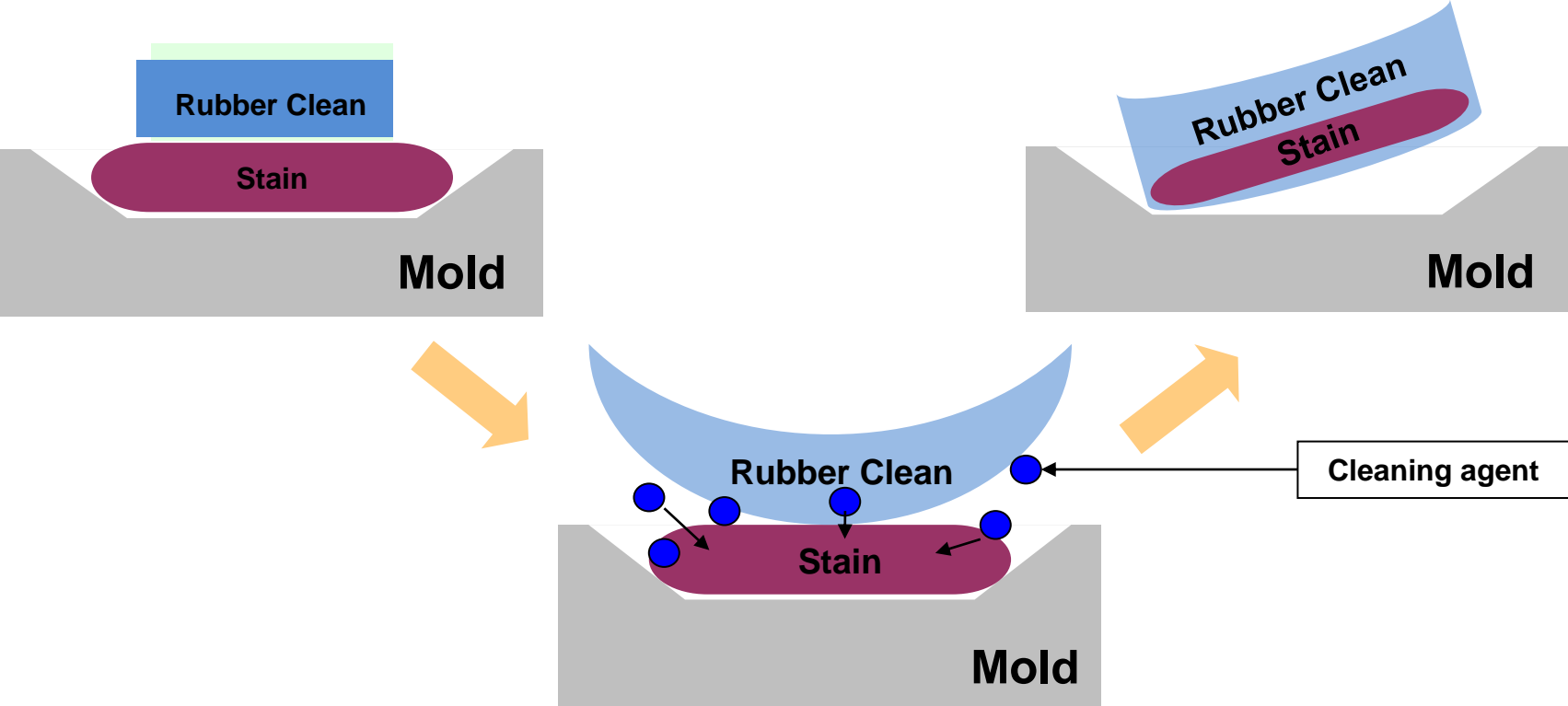


④ Super Wax 1~2 shots



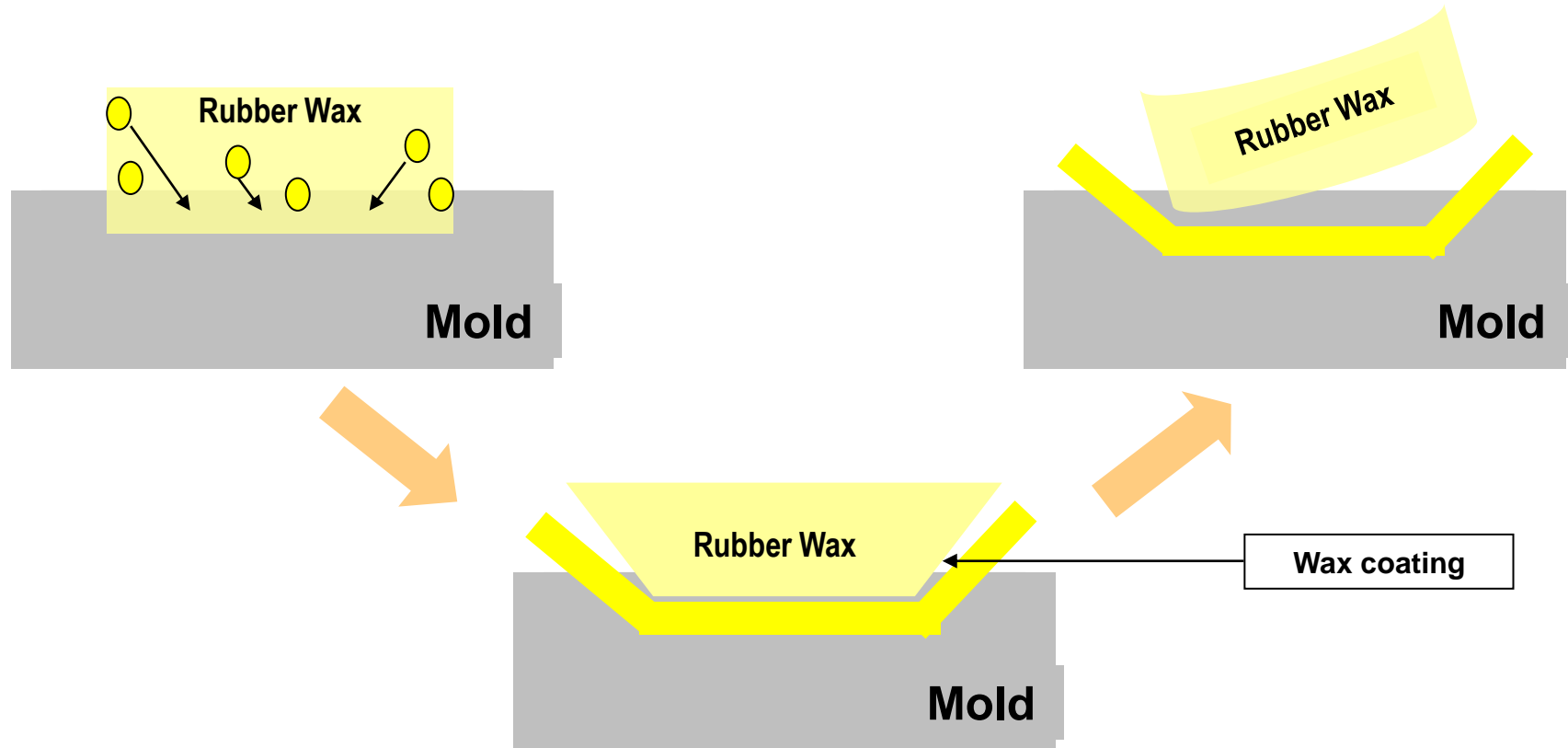
⑤ Dummy 1~2 shots

# Rubber Sheet - Mechanism



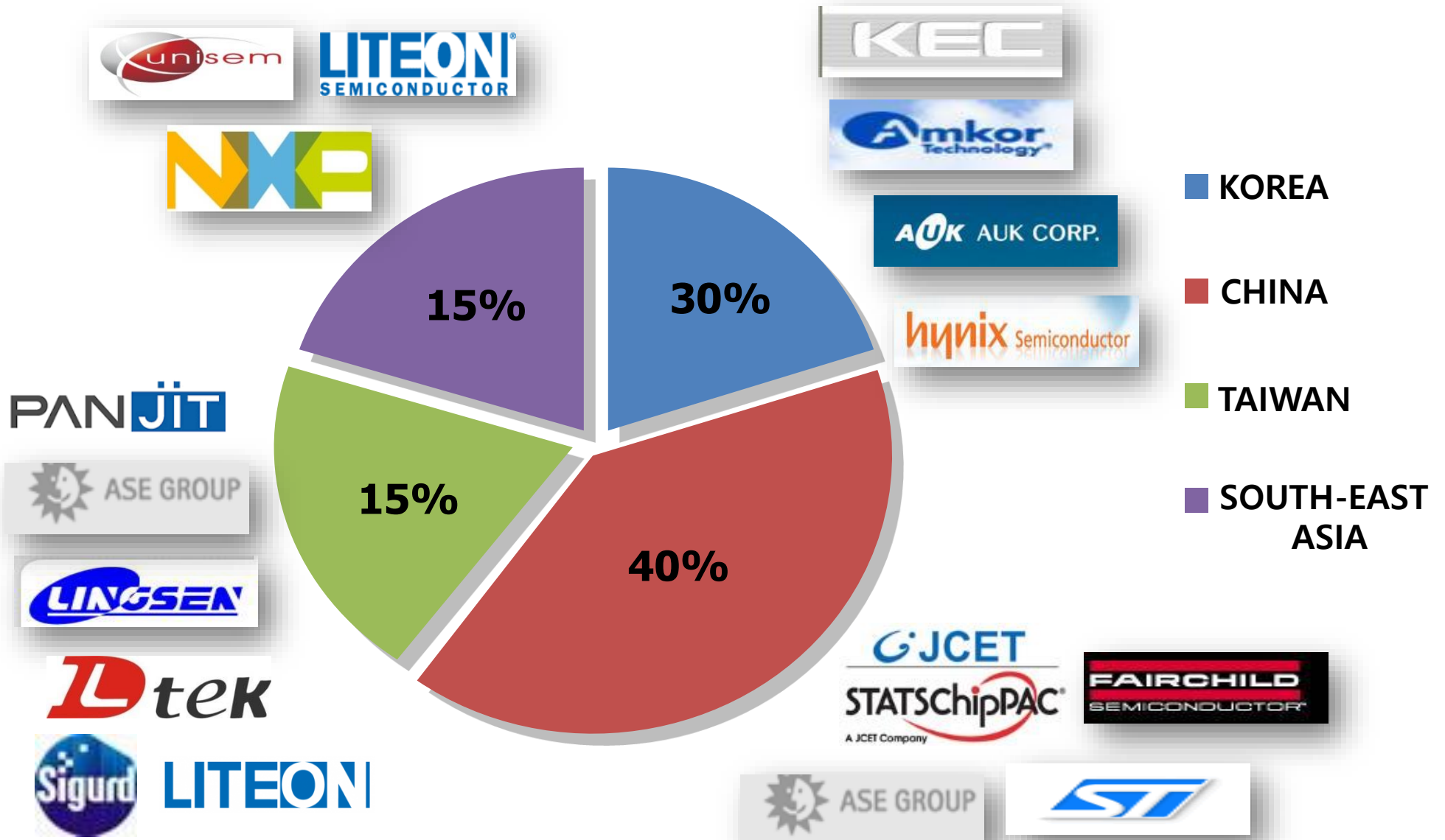
- Rubber sheet removes remained compound by high pressure and temperature Under Process of EMC Packaging

# Rubber Sheet - Mechanism



- Rubber sheet coating the surface with wax by high pressure and temperature Under Process of EMC Packaging

# Narachem Rubber Sheet Market Status





## Rubber Sheet – Products information

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SUPER CLEAN		Rubber	Cleaning Agent	Filler
Type 1	SC3000	A	A	A
Type 2	SC5000	A	B	B
Type 3	S-series	B	B	B

SUPER WAX		Rubber	Synthetic Wax	Filler
Type 1	SW7015H	A	A	A
Type 2	SW9000	A	B	B
Type 3	S-series	B	B	B

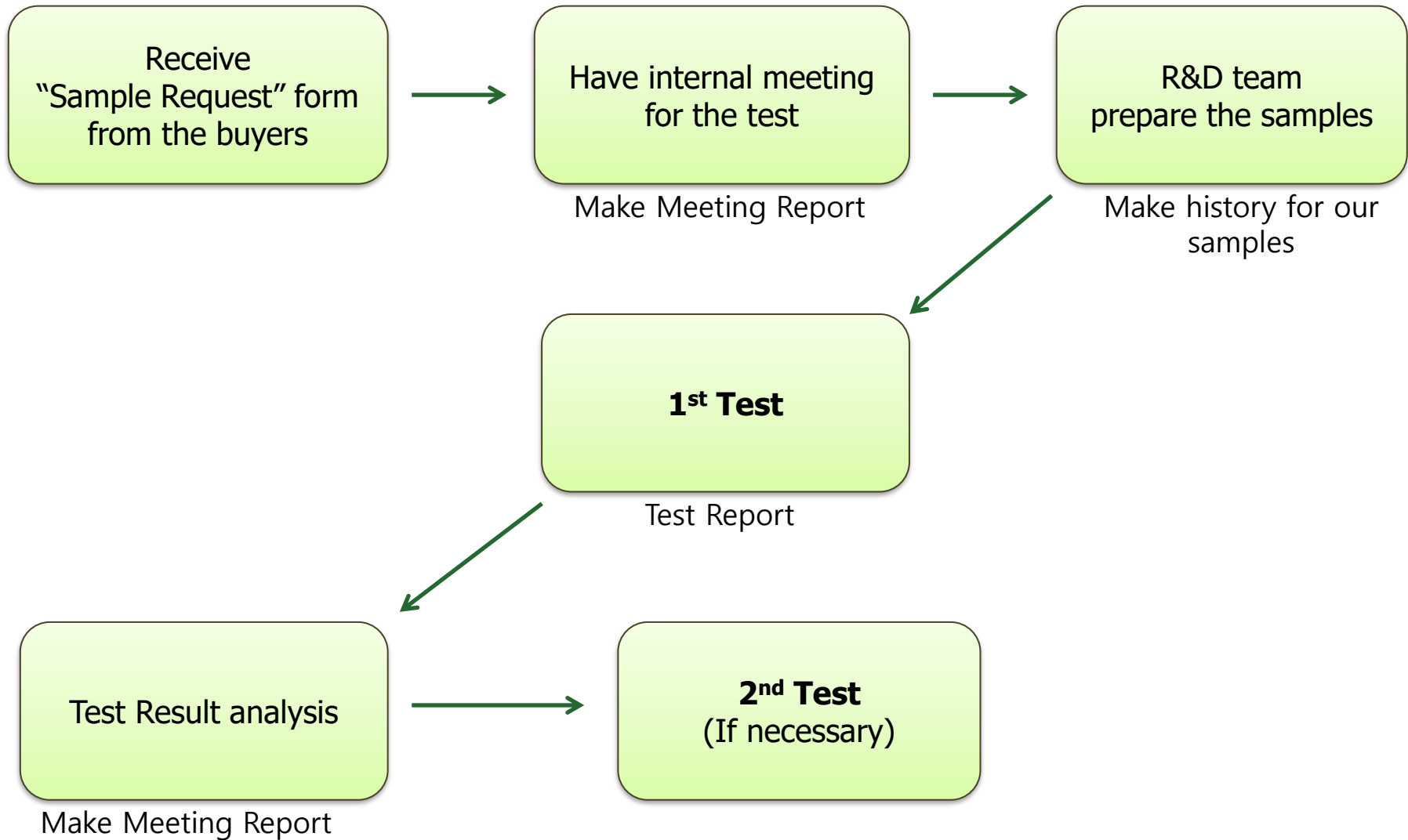


# Rubber Sheet – Products information

	SUPER CLEAN	SUPER WAX	Applied Customers	Remark
<b>Type 1</b>	SC3000	SW7015H	JCET, Lingsen, On-Semi, Sigurd	Standard Grade (B-EMC, & W-EMC)
<b>Type 2</b>	SC5000	SW9000	SK HYNIX, STM ASE Group, Panjit	Low Fume/Odor
<b>Type 3</b>	S-series	S-series	Fujitsu, Huatian TI Philippines	Low Fume/Odor Cover Deep & Small PKG

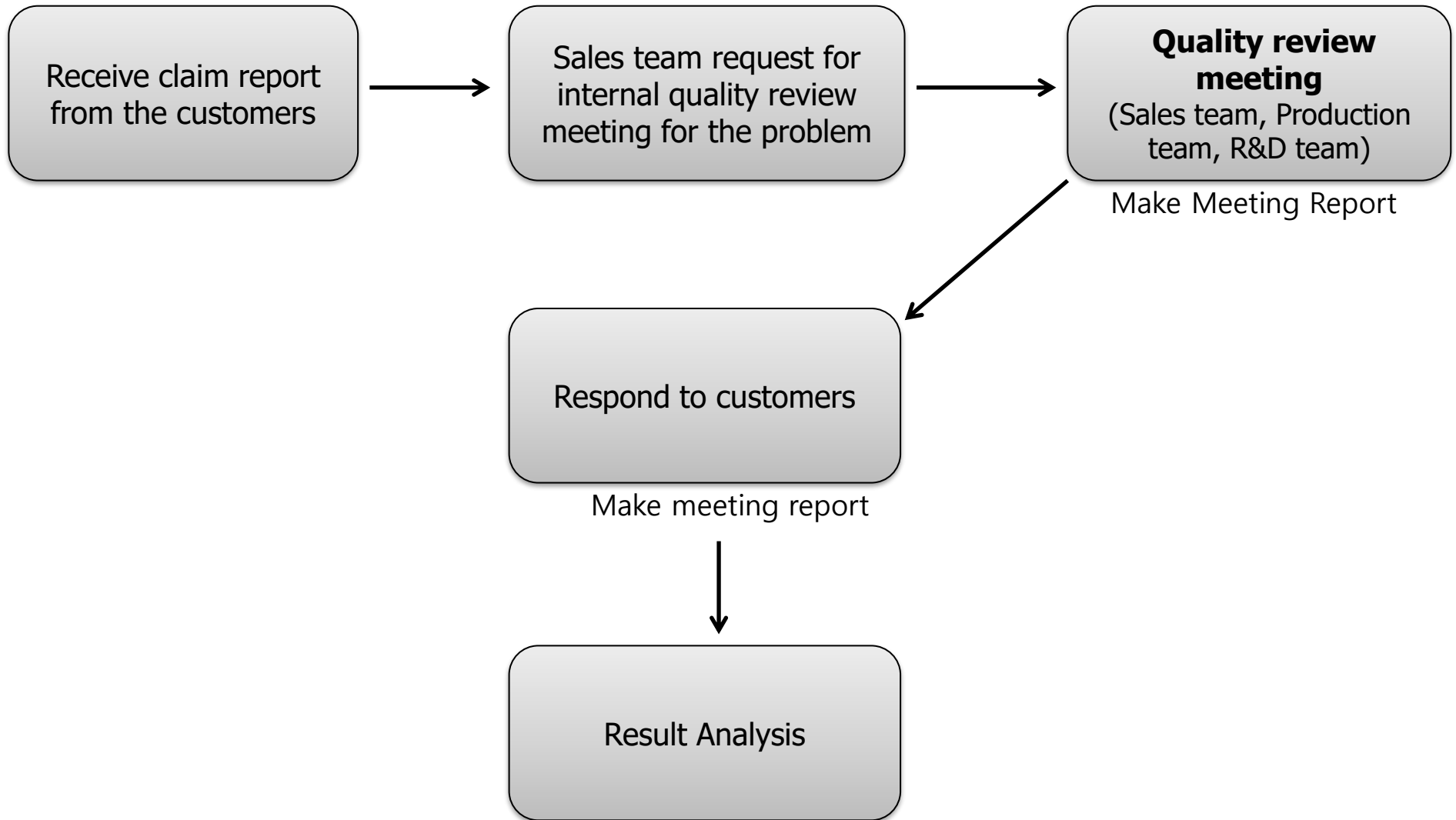
- **Fume and Oder**  
**(High) Type 1 > Type 2 > Type 3 (low)**
- **Cleaning Ability**  
**(High) Type 1 > Type 2 = Type 3 (low)**
- **Filling in Cavity**  
**(High) Type 3 > Type 2 > Type 1 (low)**

# Sample Test Process



\* We should make all history report in every processes to develop our materials.

# Claim Handling Process



\* We should make all history report in every processes to develop our materials.

**Thank you**

**Guide Line for Narachem Super Clean & Super Wax**

**1. Profits as Use of These Materials**

If these materials will be used in order to clean the mold die, you can get in large profits for Cost saving as follows.

- 1) Material Cost Down.
- 2) No need to use Lead Frame.
- 3) Reduction of Cleaning Time ( some 70%).
- 4) Performance of Productivity.
- 5) No Preheating.
- 6) Simple and Easy Cleaning Method.
- 7) No Damage of Mold Die Surface.

**2. Ingredients of Narachem Super Clean & Super Wax**

- |                 |   |                        |
|-----------------|---|------------------------|
| 1) Binder       | : | Synthetic Rubber       |
| 2) Detergent    | : | Cleaning /Wax Compound |
| 3) Absorbent    | : | Silica Powder          |
| 4) Curing Agent | : | Organic Peroxide       |
| 5) Other        | : | Additives              |

### 3. Function of Each Ingredients

- 1) Synthetic Rubber : Recovery agent for releasing as Binder.
- 2) Cleaning Agent : Weaken the adhesive power of contaminants stuck on the mold die surface by means of its penetration.
- 3) Silica powder : Absorb the soaked contaminants to the surface of cured rubber sheet.
- 4) Organic Peroxide : Curing agent for rubber sheet.

### Physical Properties of Narachem Super Clean & Super Wax

Classification	Unit	Super Clean	Super Wax
Viscosity	MU	10 ~ 50	5 ~ 45
Color	-	White	Gray

### 4. Recommendable Mold Parameters

#### 1) Manual (Conventional) mold

Classification	Super Clean	Super Wax
Mold Temp.(°C)	170 ~ 180	170 ~ 180
Cure Time(sec)	300	300
Clamp Press(kgf/cm <sup>2</sup> )	55 ~ 75	55 ~ 75
No. of Shots	3 ~ 5	2 ~ 3
Dummy Shot	1 ~ 2	1 ~ 2

Data 1

#### 2) Auto mold

Classification	Super Clean	Super Wax
Mold Temp.(°C)	170 ~ 180	170 ~ 180
Cure Time(sec)	300	300
Clamp Press(ton)	20 ~ 45	20 ~ 45
Gap b/w Top & Bot.	No Gap	No Gap
No. of Shots	3 ~ 5	2 ~ 3
Dummy Shot	1 ~ 2	1 ~ 2

Data 2

**5. Corrective Action Items**

When below defect modes were happened during the use of Super Clean & Super Wax,  
Please check Your mold parameters again and refer to Data 3

Defect Modes	Mold Temp.	Clamp P.	Cure Time	Eject Pin	Strip Q'ty
Sticking problem of Cured Sheet	↗	↘	↗	↗	-
Chip out problem of Cured Sheet	↗	↘	↗	-	-
NO Eject Pin ON Top Mold die	-	↘	-	-	-
Uncured problem of Rubber Sheet	↗	-	↗	-	-
Non-fill problem of Cured Sheet	-	↗	-	-	↗

Data 3

**6. Storage and Packing**

- 1) Storage temperature : Keep them at 5°C or below.
- 2) Room cure time : 1 days after taking out from cold room.
- 3) Shelf-life time from manufactured date : 12 months at 5°C or below.
- 4) Shelf-life time at normal temp : 1 month or below.(recommend keeping at cold room)
- 5) Remaining goods after use which need to close polybag and return back cold room

**8. Notes**

- 1) When 1 cleaning cycle is completed, follow the below guide line step to reduce the Smell And Smoke caused by the cured rubber sheet.
  - a. Blow the cured rubber sheet for about 3~5sec. By air-gun to allow to the smell and fume to ventilate.
  - b. Remove the cured rubber sheet from mold die by gloved hand with blowing the air. If so, it will be very easy to move them from the mold die.
  - c. Put the cured rubber sheet into the polybag and then scrap it each other waste.
- 2) If possible, Super clean & Super Wax should be used under good ventilation system.