

# QUALITY PARAMETERS

Parameters	Blend	Processing	Ingredients
Taste	XX		XX
Taste keepability	XXX		XX
Homogeneity	X	XXX	
Hardness	XXX	X	
Spreadability	XXX	X	
Heat stability	XXX	X	XX
Oral melt	XXX	X	X
Emulsion stability	X	XX	XX
Plasticity	X	XX	X
Baking performance shallow frying	X	X	XX

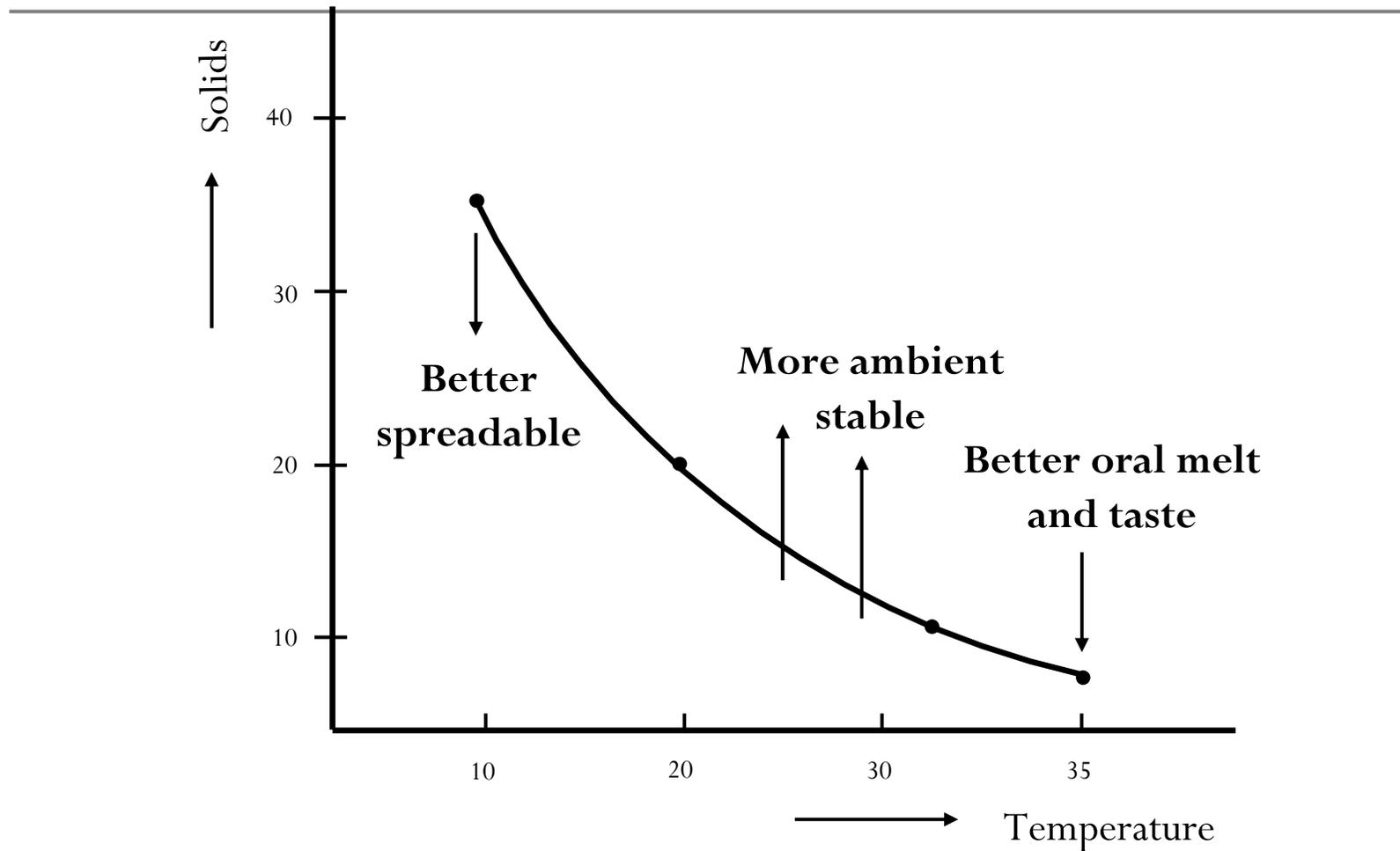
# FAT BLEND- Product characteristic defines N-line

- **Spreadability**
  - from the refrigerator; N10
  - at ambient temperature; N20
- **Stability**
  - mainly N20 or N25
- **Heat stability**
  - at which temperature; N30?
- **Oral melt and Taste**
  - mainly N35

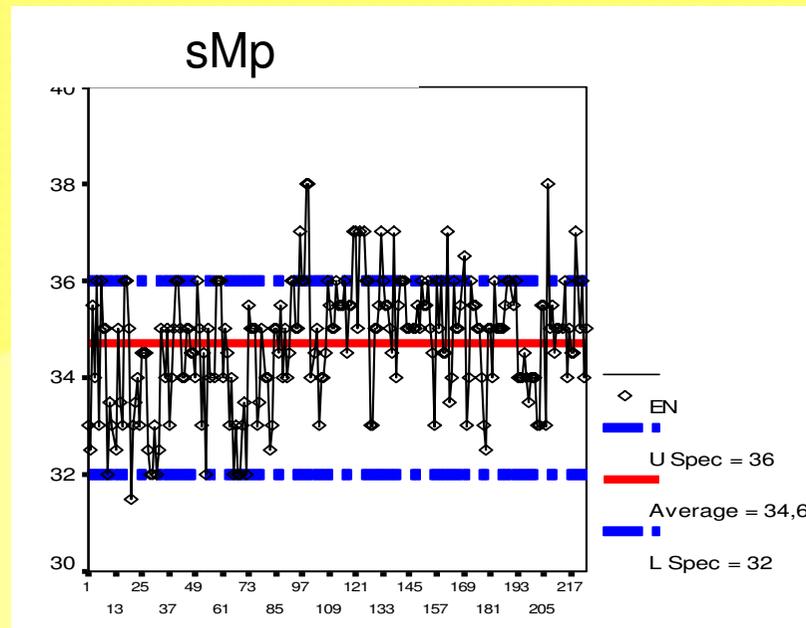
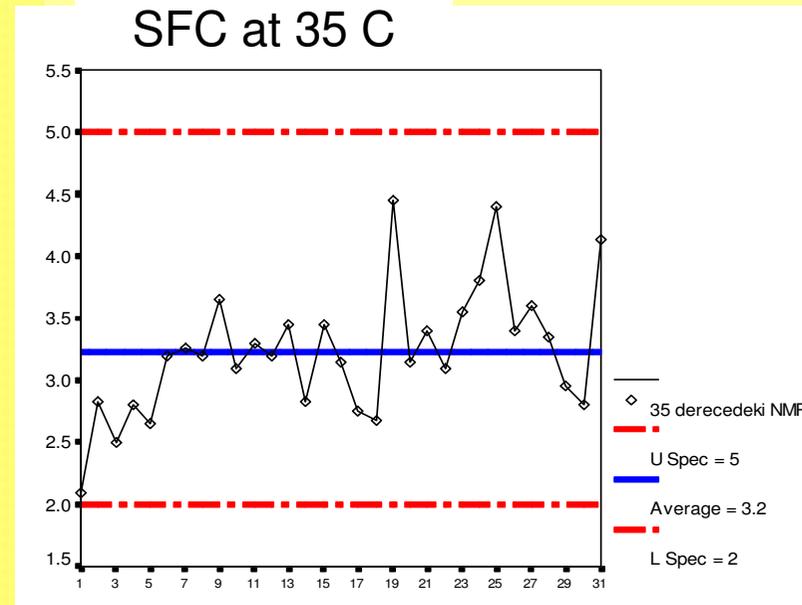
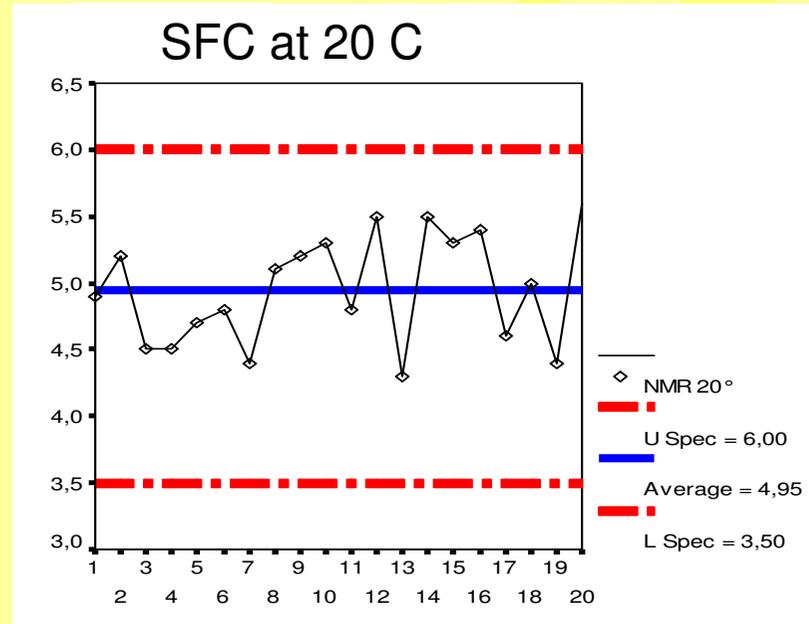


# FAT BLEND- Product characteristic defines N-line

## How to influence consumer requirements by the N-line



# FAT BLEND- Product characteristic defines N-line



# INGREDIENTS



- Almost all ingredients have an effect on the taste of the final product this can be positive / negative

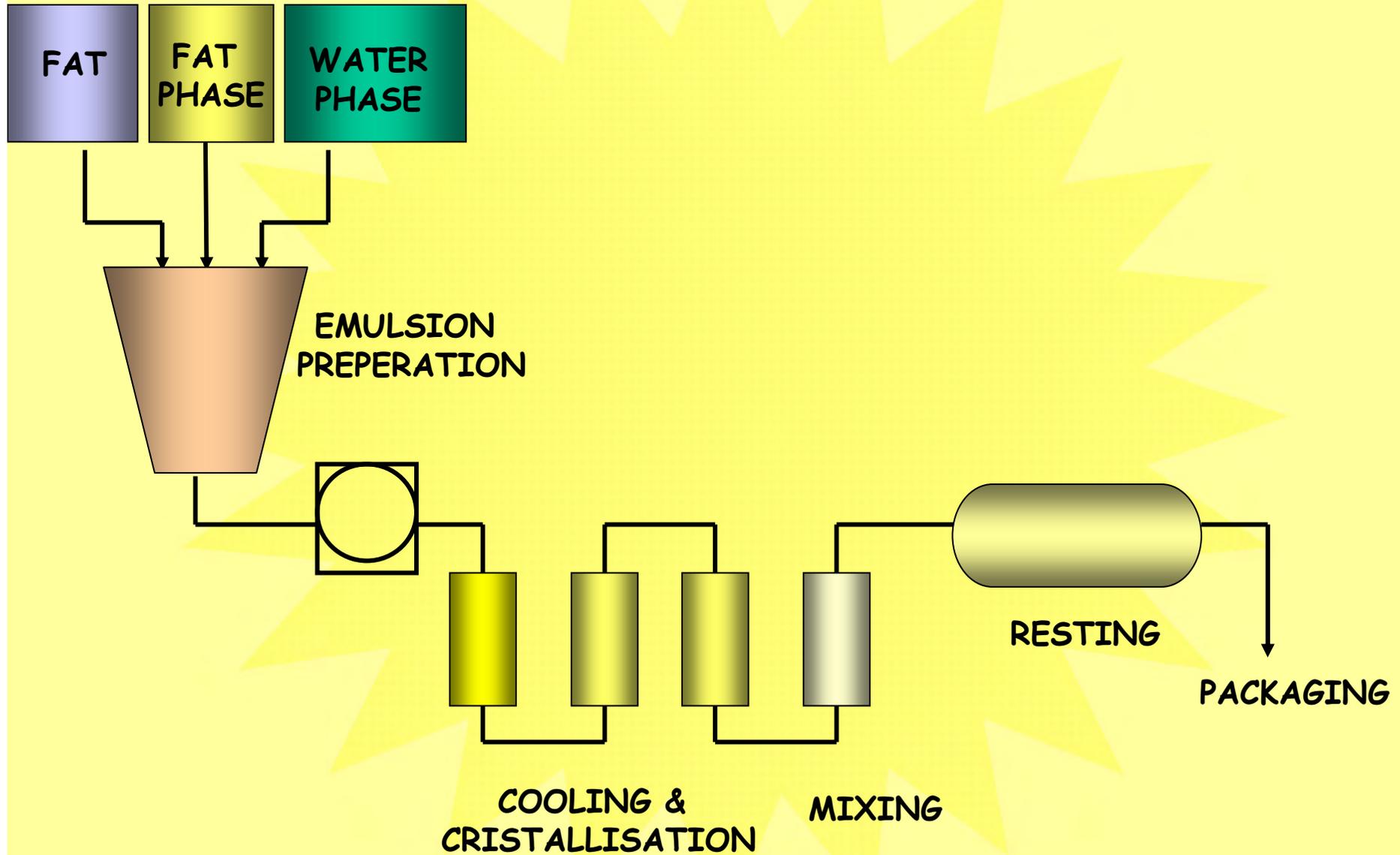
***Ingredients like milkpowder, acids, salt and flavours (antioxidants)***

- Specifying quality into ingredients but specify only what is relevant
- Buying the ingredients with analyses certificate from the approved suppliers
- Minimising stirring, pumping, storage time and temperature variations

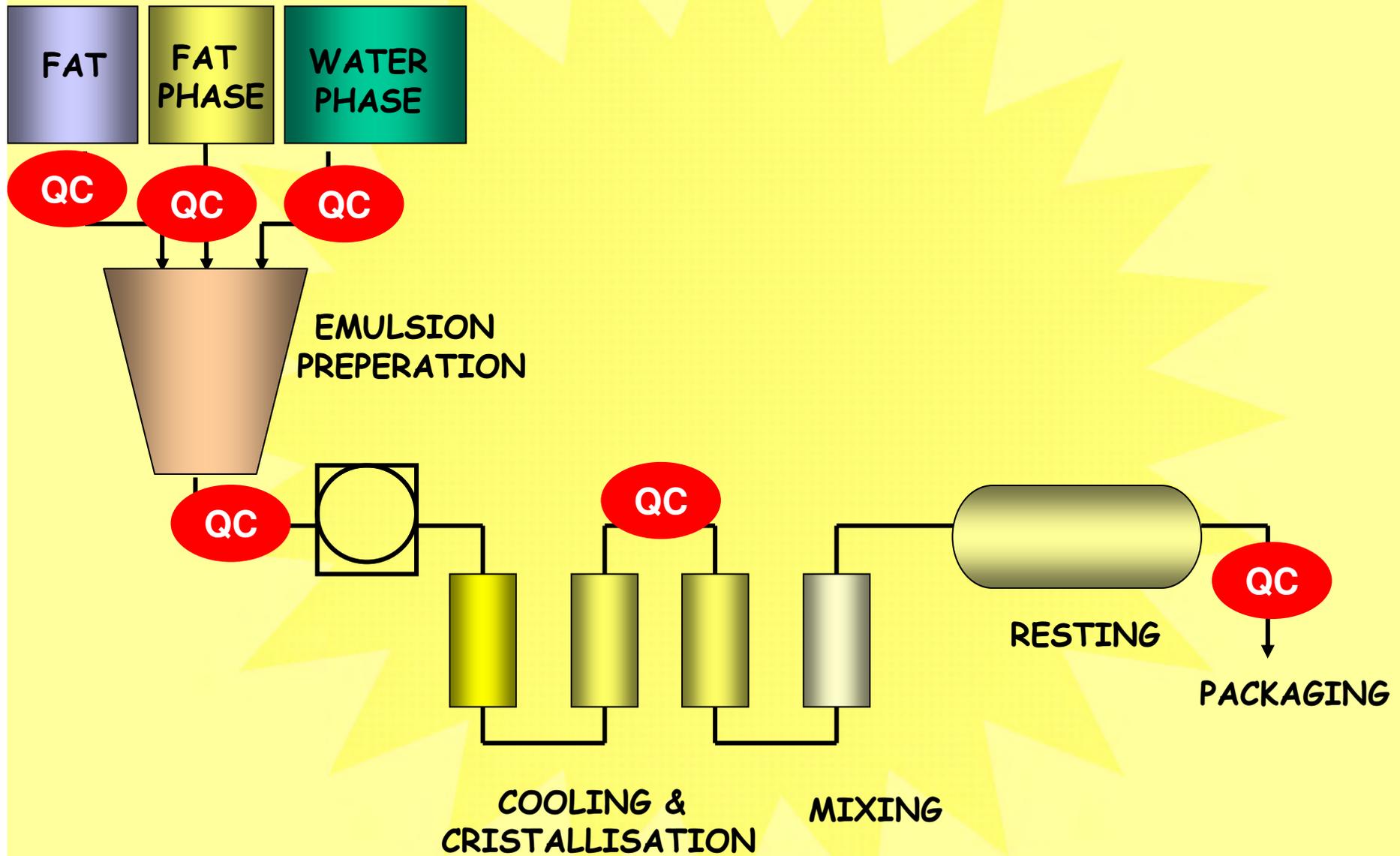
# INGREDIENTS - example

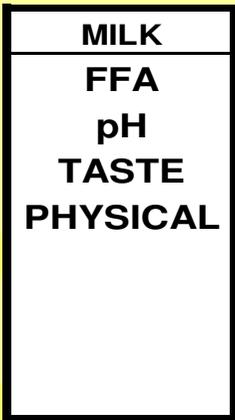
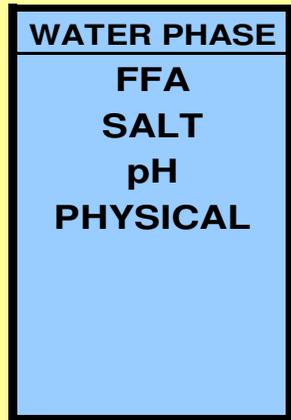
	<b>Skimmed Milk Powder</b>	<b>Lecithin</b>
<b>Moisture,%</b>	<b>max.5</b>	<b>max.2</b>
<b>pH</b>	<b>6.65±0.15</b>	<b>-</b>
<b>Colour/appearance</b>	<b>White, clean</b>	<b>Brown,viscous</b>
<b>Total count</b>	<b>max. 100.000/g</b>	<b>Max.5000/g</b>
<b>Coliform</b>	<b>max.10</b>	<b>-</b>
<b>Acid number</b>	<b>-</b>	<b>max.30</b>
<b>Peroxide</b>	<b>-</b>	<b>max.5</b>

# PROCESSING



# PROCESSING





WITH WATER

WITHOUT WATER



- FFA
- SALT
- pH
- MOISTURE
- COLOUR
- sMp
- POV
- TASTE
- PHYSICAL
- WEIGHT

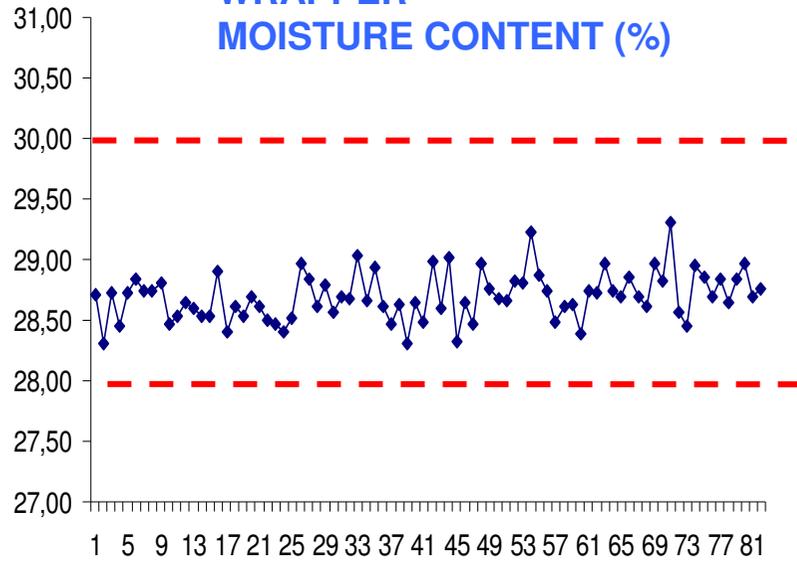
- FFA
- COLOUR
- sMp
- POV
- IV
- TASTE
- PHYSICAL
- WEIGHT



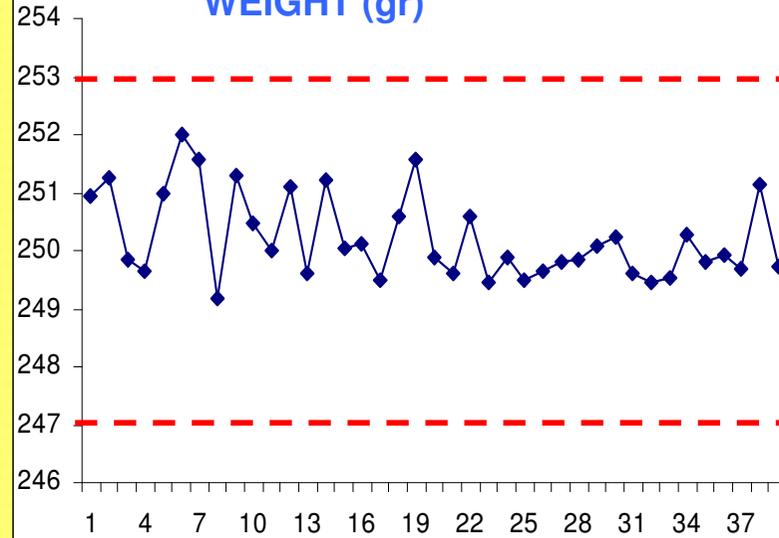
physical



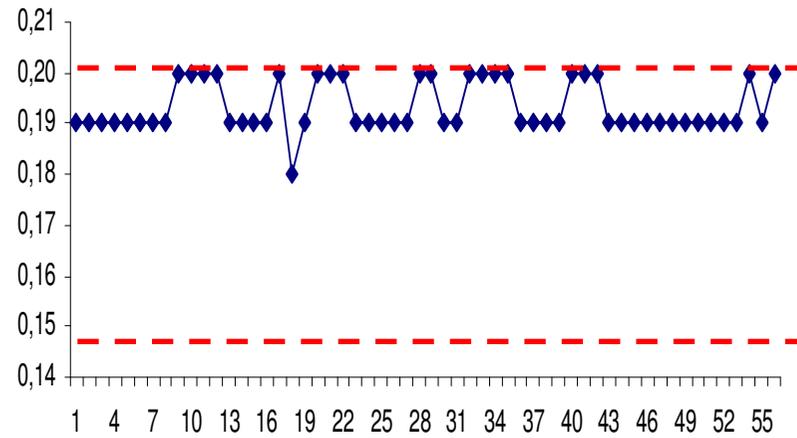
### WRAPPER MOISTURE CONTENT (%)



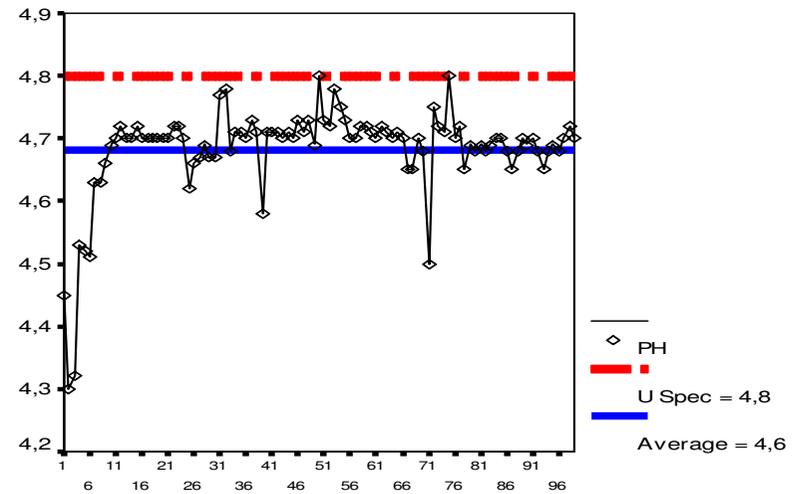
### WRAPPER WEIGHT (gr)



### WRAPPER- SALT CONTENT (%)



### PH

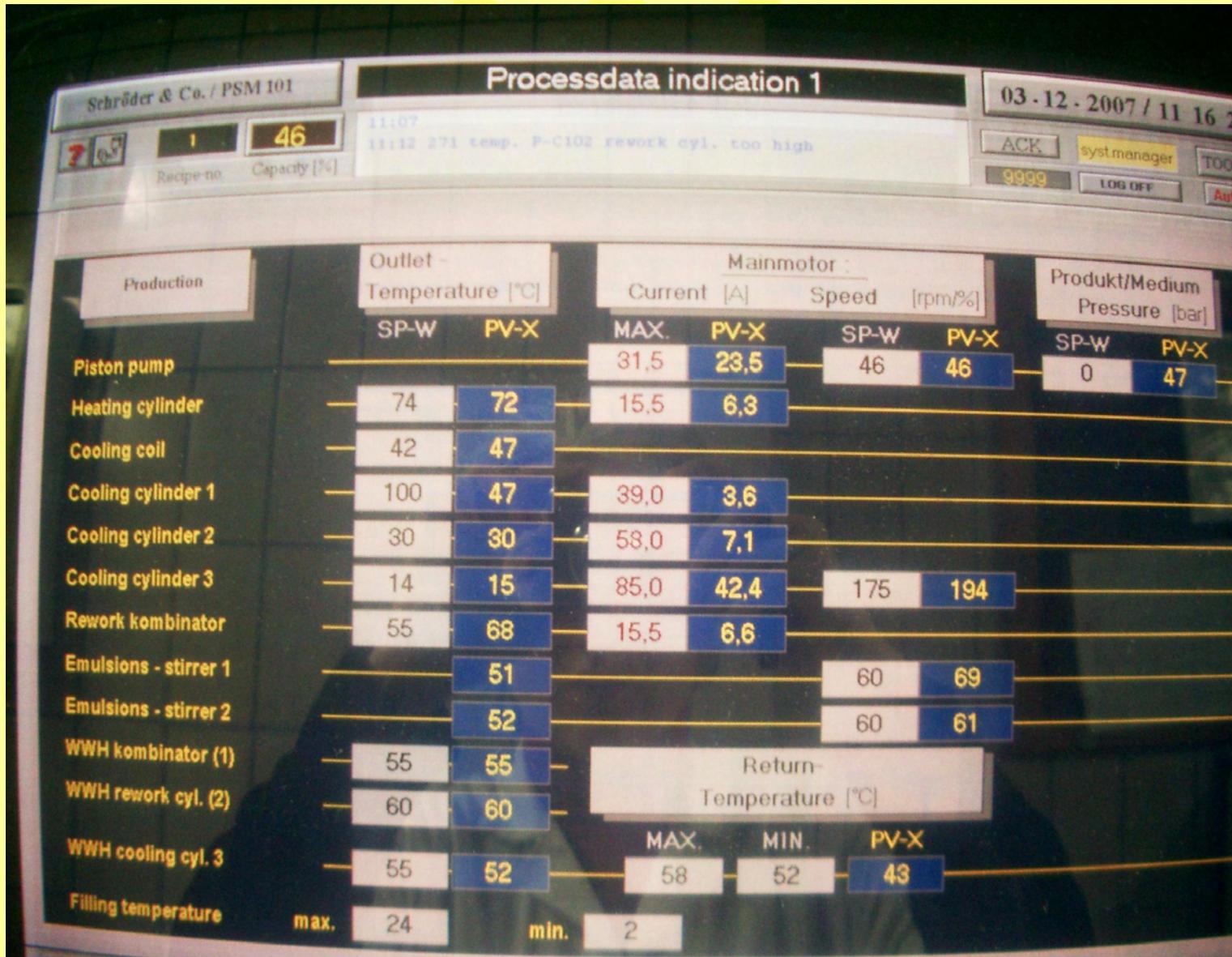


# PRODUCT SPECIFICATIONS

Criteria	Wrapper & Tub Margarines	Bakery Margarines	Bakery & Industrial Fats
* Fat, %	40- 82	Min.82	Min.99
Water, %	16- 60	max.16	max.1
* FFA ,%	max. 1 (0,5)	max. 1 (0,5)	max.0,2
* POV	0	0	0
pH (acidity)	4,4-4,7	2,5-4,5	-
* sMp	max.36	max.45	max.45
Colour	3,5-5 R	3,5-5,5 R	5-6 R
Salt, %	0,18- 0,3	Max.0,2	-

\* TSE (Turkish Standarts Institute, Margarine Standart)

# PROCESSING





## MARGARINE QUALITY

### ***SENSORY EVALUATION & PERFORMANCE TEST***

# SENSORY EVALUATION

*Linking the Consumer to the Margarine Producer*

## Sensory Evaluation Methods

### FOR TUB MARGARINES;

- Spreading on the bread
- Tasting

### FOR WRAPPER MARGARINES;

- Cooking Performance
- Baking Performance



# PERFORMANCE EVALUATION

*Linking the BAKER to the Margarine Producer*

## Performance Evaluation Methods

- ❑ Physical Tests
- ❑ Baking Performance Tests



# PUFF PASTRY FATS & MARGARINES

During the baking,  
Fat between the layers melts  
Layers opened  
Dough widens  
Crispiness increases

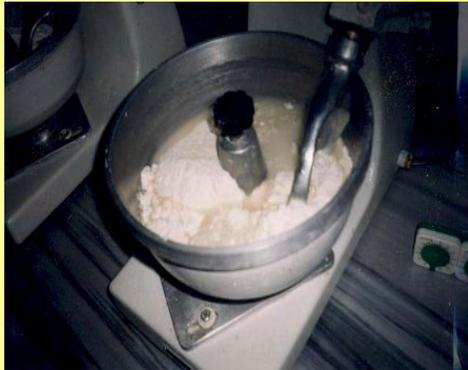
The FAT be:

- Not broken easily
- Homogenous structure
- in good plasticity
- Not be sticky
- Rheology of the dough be equal to rheology of fat



*SFC at 20 °C : % 38-42, at 30 °C : % 18-23, at 35 °C : % 12-16*  
*sMp: max.42°C*

## ***Puff Pastry – Performance Trial***



***Mixing of  
Flour,  
water,  
salt & citric acid***



***800 gr.dough  
pieces  
rounded***



***Cutting the doughs  
and  
resting***



***350 gr fat OR  
375 gr margarine***

***Placed in the  
middle of dough.***



***Fat is packed  
with the dough***



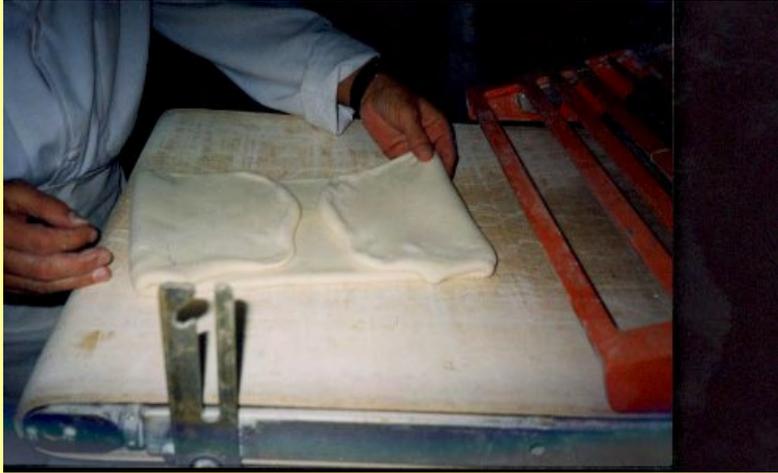
**Dough rested 10-15 min.  
Then  
lamination**



**90 ° turned,  
Laminated till 8 mm'  
3 turn**

**Rest in refrigerator 45 min.  
Lamination**





**4-5 turns  
final thickness 7-8 mm**

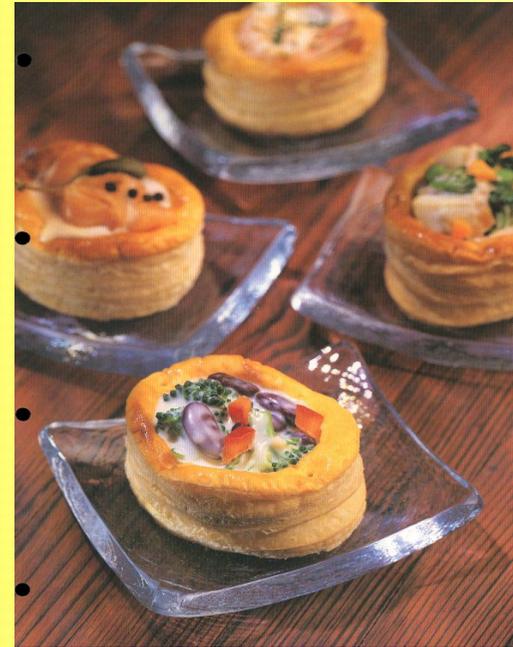


**Special device, cutting  
1 hour resting**

**Baking at 240-260°C  
20 min.**



**QUALITY CHECK**



# CREAM FATS

## CONSTRAINTS

- Neutral taste
- good sticking to biscuit
- good creaming properties
- rapid setting
- good cooling effect

## BY

- Good refining deodorisation
- not too hard  
not too soft
- well plasticised  
homogeneous
- crystallisation rate
- steep N-line



**SFC at 20 °C : % 22-26,**

**at 30°C : % 8-12**

**at 35°C : % 4-8**

**sMp: max.38°C**

## Cream Fat – Performance Trial



Whipping  
Performance is  
measured by  
specific volume

600 gr. fat  
10 min. Mixing at high speed (SP1)

%30 water +% 70 crystal sugar= sol'n  
600 gr fat + 250 gr.sol'n mix 10min.(SP2)

Cup weight with sample – empty cup weight = SPECIFIC VOLUME( $\text{gr}/\text{cm}^3$ )(SP)  
cup volume

*Ideal Performance: SP1 < 0,3  $\text{g}/\text{cm}^3$  , SP2 < 0,4  $\text{g}/\text{cm}^3$*

# ALL PURPOSE FATS & MARGARINES

## Bakery margarines

**Consistency/hardness**

not too hard at 10-15 °C

not too soft at 30-35 °C

**Plasticity, Worksoftening**

**Creaming performance (high air intake)**

**Taste keepability, Taste after baking**

**SFC at 20 °C : % 22-28**

**at 30 °C : % 10-15**

**at 35 °C : % 5-8**

**sMp: max.40°C**



# All Purpose Margarine – Performance Trial



Penetration measurements at  
20 °C and 30 °C



Plasticity Control by hand



no air cracks, not easily broken,  
Not sticky



**Volume, shape, colour of the product**



## CAKE PERFORMANCE



Air keepability  
Volume  
Crumb and crust structure

# INDUSTRIAL FATS & MARGARINES

## Industrial fats

**Crystallisation rate**

**Fatty acid composition**

**Rancimat**

**Stability**

**Consistency**

**Colour**

**Foaming / Smokepoint**



**The Customer is anyone  
affected by the Product**

# Voice of Customer

- Listen the customer
- Get the complains
- Physical & chemical & performance controls
- Find out the reason of the problem
- Share the result with staff
- Inform the customer about the result



**Quality is defined  
by  
the Customer**

# QUALITY

for  
the **HOUSEWIFE**



**Proud of herself  
with delicious  
products**

for  
the **BAKER**



**the way of showing  
his expertise**

# QUALITY

for  
the R&D MANAGER



the best formulation for  
the product

for  
the PRODUCTION CHIEF



Production according  
to the specs

# QUALITY

For the QC MANAGER  
product without defect



# QUALITY

FOR  
the **MARKETING**  
**MANAGER**



**Increasing sales**

# QUALITY

Customer satisfaction





THANK YOU FOR YOUR ATTENTION