

APPLICATION GUIDELINE

VANILLA ICE CREAM

STANDARD – CLEANER – CLEAN

ICE 307 is a functional system with a **standard** approach that contains the optimized levels of monodiglycerides and hydrocolloids.

ICE 311 is a functional system with a **“cleaner”** approach that contains the optimized levels of hydrocolloids without monodiglycerides and/or carrageenan.

ICE T311/S401/C311 is a range of functional systems with a **“cleaner”** approach that contains the optimized levels of hydrocolloids without monodiglycerides and/or carrageenan and using **tara or cassia gum** instead of locust bean gum

ICE 414 is a functional system with a **“full clean”** approach that contains the optimized levels of starch, fiber and protein.

They are specially designed to produce smooth and creamy frozen dessert and to be stable against heat shock.

FUNCTIONAL SYSTEMS

ICE	Dosage	Ingredients
307 (Standard)	0.3%-0.6 %	Monodiglycerides (E471) Guar Gum (E412) Locust bean Gum (E410) Carrageenan PES (E407a)
311 (cleaner)	0.3%-0.6 %	Acacia Gum (E414) Guar Gum (E412) Locust bean Gum (E410)
C311 (cleaner)	0.3%-0.6%	Acacia gum (E414) Guar gum (E412) Cassia gum (E427)
T311 (cleaner)	0.3%-0.6 %	Acacia Gum (E414) Guar Gum (E412)
S401 (cleaner)	0.3%-0.6 %	Tara Gum (E417)
414 (clean)	1.5%-2.5 %	Starch Vegetable fiber Vegetable protein

RECIPE

Ingredients	%
Skimmed Milk	QS
Cream (35% fat)	27.40
Sugar	13.00
Skimmed milk powder	5.40
Glucose syrup powder	3.33
ICE 307/311/C311/T311/S401 or ICE 414	0.30 – 0.60 1.50-2.50
TOTAL	100.00

PROCESS

- Heat up the liquid milk at 60°C
- In the following order, add, slowly and under high shear:
 - glucose syrup and sugar
 - functional system **ICE 307/311/C311/T311/S401/414**
 - milk powder
- Disperse under high shear the powders in warm milk
- Add cream
- Homogenize at 150/30 bars*
- Pasteurize at 90°C for 30sec (tubular heat exchanger)*
- Store at 4°C, under low shear, overnight or minimum 4h for maturation
- Whip in a freezer** to the desired overrun
- Fill in cups
- Storage at -18°C

*for ICE 307/311/C311/S401/T311 only, for ICE 414, homogenisation performed using a silverson at 2100rpm and pasteurization performed using a Thermomix

** trials performed using a KF80 freezer for ICE 307/311/C311/T311 and using a Magimix for ICE 414/S401



Information given as a rough guide and without commitment of the company AGI.

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