



Specialty Starches



**TEXTURIZING AND
FUNCTIONAL SOLUTIONS**

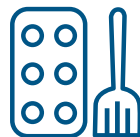


ROQUETTE
Offering the best of nature™

The food industry is always seeking to improve the quality of its products. To respond to this aim, native or modified starches are used in a wide variety of applications.



Savory



Baking



Dairy



Confectionery



Specialized nutrition

Starches are also designed to conform to manufacturing constraints without affecting the end product's quality during its lifetime.

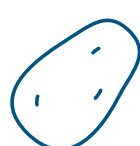
Roquette is a leading supplier both of standard and specialty starches. All are part of an exceptionally wide range of quality food starches aimed at meeting every need and taste. The range has been extended even further by using different plant sources, eg. maize, wheat, potato, pea and tapioca.



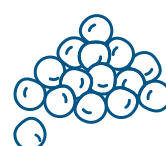
Maize (corn) starch*



Wheat starch



Potato starch



Pea starch



Tapioca

Each of these produces subtly different starch characteristics that Roquette exploits to the full on our customers' behalf.



Specialty Starches

Starches need to be cooked to develop their functionalities, mainly related to texture.

Starch can be improved by a physical, enzymatic or chemical process to obtain 'specialty starches', each offering different characteristics and used widely in the food industry.

The variety of starches opens up an infinity of new textures and sensory experiences.

* 3 different types of maize: Regular, Waxy = rich in amylopectin, High amylose = rich in amylose



SPECIALTY STARCHES TEXTURIZING & FUNCTIONAL SOLUTIONS

SAVORY

Cook-up - Pregelatinized - Functional - Specialties

BAKING

Cook-up - Pregelatinized - Specialties

DAIRY

Cook-up - Pregelatinized - Thin boiling - Functional

CONFECTIONERY

Thin boiling - Specialties

SPECIALIZED NUTRITION

Pregelatinized - Specialties

OTHER SOLUTIONS

Specialties



Cook-up

Starches that need to be cooked to develop their functionalities, mainly related to texture.
> **CLEARAM®** starches

- ▶ SAVORY
- ▶ BAKING
- ▶ DAIRY
- ▶ CONFECTIONERY
- ▶ SPECIALIZED NUTRITION
- ▶ OTHER SOLUTIONS



Pregelatinized

Starches that swell in cold water, as already cooked. Also called Pre-cooked or Instant.
> **PREGEFLO®** starches

- ▶ SAVORY
- ▶ BAKING
- ▶ DAIRY
- ▶ SPECIALIZED NUTRITION



Functional

Starches resistant to the process. Also called Clean label starches.
> **ROQUETTE STARCHES FC**

- ▶ SAVORY
- ▶ DAIRY



Thin boiling

Starches with low hot viscosity.
> **CLEARGUM®** starches

- ▶ SAVORY
- ▶ DAIRY
- ▶ CONFECTIONERY



Specialties

Starches with specific functionalities such as film forming, low viscosity, emulsifying or binding properties
> **LYCOAT®, TACKIDEX® & CLEARGUM®** starches

- ▶ SAVORY
- ▶ BAKING
- ▶ CONFECTIONERY
- ▶ SPECIALIZED NUTRITION
- ▶ OTHER SOLUTIONS



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized			Functional					Thin boiling				Specialties		
CHARACTERISTICS (see more)	CLEARAM CH 10 20	CLEARAM CH 20 20	CLEARAM CH 20 20 6%	CLEARAM CH 20 25	CLEARAM CH 30 20	CLEARAM CR 10 10	CLEARAM CR 20 10	CLEARAM CR 30 20	CLEARAM CR 40 15	CLEARAM LI 40 00	CLEARAM PG 8%	CLEARAM PG HV	CLEARAM PI 10	CLEARAM PJ 30	ROQUETTE STARCH M-516
Raw material	waxy maize									pea	potato				
Friendly label															
E-number or INS	E1422					E1442				E1412	E1420		E1412	E1414	E471
Viscosity mild conditions	4	3	3	3	2	4	3	2	1	1	5	5	4	4	4
Viscosity rigorous conditions	2	3	3	3	4	2	3	4	4	4	1	1	1	3	2
Shear resistance	2	3	3	3	4	2	3	4	4	4	1	1	2	3	2
Stability	3	3	3	4	3	4	4	4	4	2	2	2	1	3	2
Main Propertie(s)	Thickener										Binder	Thickener		T & P	Thickener
SAVORY SOLUTIONS															
Dry sauce mix: Brown sauce, gravies, bechamel	•		•			•					•	•			•
Dry sauce mix: Tomato	•														•
Dry sauce mix: Microwaveable	•														•
Canned & UHT Sauce: Tomato sauce		•			•			•	•						
Frozen sauces	•	•			•			•	•						
Fat-based sauce: Bearnaise, hollandaise	•	•						•	•						
Fat-based sauce Mayonnaises & dressings		•			•			•							
Hot processed sauce		•			•		•	•	•					•	•
Canned & UHT soup: Cream & tomato soup		•		•	•	•			•						
Frozen soups (Cream & tomato)		•		•		•									
Sausages & patés												•			
Cooked ham		•												•	
Canned meat products		•												•	
Minced meat															
Surimi, fish products		•										•		•	
Batters & coatings										•					
Potato croquette, mashed potato													•		
French fries, potato wedges										•					



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized			Functional				Thin boiling				Specialties	
CHARACTERISTICS (see more)	CLEARAM CH 10 20	CLEARAM CH 20 20	CLEARAM CH 30 20	CLEARAM CL 20 00	CLEARAM CJ 50 25	CLEARAM CR 08 20	CLEARAM CR 10 10	CLEARAM CR 20 10	CLEARAM CR 30 10	CLEARAM MH 05 00	CLEARAM PG HV	CLEARAM PJ 30	
Raw material	waxy maize									maize	potato		
Friendly label	-												
E-number or INS	E1422			E1412	E1414	E1442					E1420	E1414	
Viscosity mild conditions	4	3	2	3	2	4	4	3	2	3	5	4	
Viscosity rigorous conditions	2	3	4	3	4	2	2	3	4	1	1	3	
Shear resistance	3	3	4	3	4	2	2	3	4	1	1	3	
Stability	3	3	3	2	4	4	4	4	4	1	2	3	
Main Propertie(s)	Thickener									G	Thickener	T, P	
BAKING SOLUTIONS													
Cook-up cream filling		•			•	•		•		•			
Fruit pie filling		•		•	•			•					
Fruit filling (bake stable)		•	•		•			•	•				
Topping	•												
Fondant		•											
Bread and viennese bread	•						•					•	
Brownie						•					•		
Instant noodle											•		



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized			Functional				Thin boiling					Specialties		
CHARACTERISTICS (see more)	CLEARAM CG 04	CLEARAM CH 10 20	CLEARAM CH 20 20	CLEARAM CH 30 10	CLEARAM CH 30 20	CLEARAM CH 40 20	CLEARAM CJ 50 25	CLEARAM CR 08 20	CLEARAM CR 10 10	CLEARAM CR 20 10	CLEARAM CR 30 10	CLEARAM CR 30 20	CLEARAM CR 40 15	CLEARAM PG HV	CLEARAM PI 10
Raw material	waxy maize													potato	
Friendly label	-														
E-number or INS	E1420	E1422				E1414		E1442						E1420	E1412
Viscosity mild conditions	2	4	3	2	2	2	2	4	4	3	2	2	1	5	4
Viscosity rigorous conditions	2	2	3	4	4	4	4	2	2	3	4	4	4	1	1
Shear resistance	2	2	3	4	4	4	4	2	2	3	4	4	4	1	2
Stability	2	3	3	4	3	3	4	4	4	4	4	4	4	2	1
Main Propertie(s)	Thickener														
DAIRY SOLUTIONS															
Dessert Cream, pudding vla			•	•				•				•			•
Mousse			•	•								•			
Long shelf life dessert			•			•	•						•		
Egg baked desserts									•			•			
Instant pudding			•		•						•	•			
Yogurt			•			•	•	•				•	•		
Processed cheese & analogue			•											•	
CONFECTIONERY SOLUTIONS															
Toffees, chews	•														
Fondant			•												
SPECIALIZED NUTRITION SOLUTIONS															
Weaning food (jar,can)			•												
OTHER SOLUTIONS															
Fruit preps		•	•						•	•	•				
Fruit fillings bake stable											•		•		



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up		Pregelatinized				Functional				Thin boiling				Specialties	
CHARACTERISTICS (see more)		PREGEFLO CH 10	PREGEFLO CH 20	PREGEFLO CH 20 G	PREGEFLO CH 40	PREGEFLO L 100 G	PREGEFLO M	PREGEFLO MI 20 A	PREGEFLO PI 10	PREGEFLO PJ 30	PREGEFLO PJ 30 25 SG	PREGEFLO WM	PREGEFLO CR 35 10		
Raw material		waxy maize				pea	maize		potato			wheat	maize		
Friendly label		-				✓	✓	-	-	-	-	✓	-		
E-number or INS		E1422				-	-	E1412		E1414		-	E1442		
Viscosity mild conditions		2	2	3	2	3	2	4	2	2	4	2	2		
Viscosity rigorous conditions		2	3	3	4	1	1	4	2	4	4	1	4		
Stability		3	3	3	3	1	1	1	2	3	3	1	4		
Main Propertie(s)		Thickener				Pulpiness	Thickener	Pulpiness	Thickener		Pulpiness	Thickener			
SAVORY SOLUTIONS															
Dry sauce mix: Tomato						•		•			•				
Dry sauce mix: Microwaveable sauce			•				•								
Fat-based sauce: Bearnaise, hollandaise		•	•	•											
Fat-based sauce Mayonnaises & dressings			•	•	•								•		
Minced meat								•		•					
Surimi, fish products						•									
Batters & coatings			•									•			
Potato croquette, mashed potato						•		•	•						



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized			Functional				Thin boiling					Specialties				
CHARACTERISTICS (see more)	PREGEFLO C 25 G	PREGEFLO C 100	PREGEFLO C 100 G	PREGEFLO CH 10	PREGEFLO CH 10 G	PREGEFLO CH 20	PREGEFLO CH 30	PREGEFLO M	PREGEFLO M 7	PREGEFLO MI 20 A	PREGEFLO P 100	PREGEFLO PI 10	PREGEFLO PJ 10	PREGEFLO PJ 20	PREGEFLO PJ 30	PREGEFLO WM	PREGEFLO CR 30 10
Raw material	waxy maize							maize			potato					wheat	waxy
Friendly label	✓	✓	✓	-	-	-	-	✓	✓	-	✓	-	-	-	-	✓	-
E-number or INS	-	-	-	E1422				-	-	E1412	-	E1412	E1414			-	E1442
Viscosity mild conditions	3	2	3	2	3	2	2	2	2	4	2	2	2	2	2	2	2
Viscosity rigorous conditions	1	1	1	2	2	3	4	1	1	4	1	2	2	3	4	1	4
Stability	1	1	1	3	3	3	3	1	1	1	1	2	3	3	3	1	4
Main Propertie(s)	Thickener	Expansion				Thickener				P	Thickener						
BAKING SOLUTIONS																	
Instant cream filling						•						•	•	•	•		
Fruit pie filling										•							
Fruit filling (bake stable)						•	•										
Bread and viennese bread															•	•	•
Biscuit, cake						•											
Choux pastry									•							•	
Sheeted snack, stackable chips								•				•	•				
Extruded snacks (3rd generation)											•	•				•	
Coated snack		•	•	•	•												
Gluten free Cakes & Bread											•						
Gnocchi, rice ball	•					•		•								•	



SAVORY



BAKING



DAIRY



CONFECTIONERY



SPECIALIZED NUTRITION AND OTHER SOLUTIONS



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized			Functional	Thin boiling	Specialties
CHARACTERISTICS (see more)	PREGEFLO C 100	PREGEFLO CH 20	PREGEFLO CH 30	PREGEFLO P 100	PREGEFLO PI 10	
Raw material	waxy maize			potato		
Friendly label	✓	-		✓	-	
E-number or INS	-	E1422		-	E1412	
Viscosity mild conditions	2	2	2	2	2	
Viscosity rigorous conditions	1	3	4	1	2	
Stability	1	3	3	1	2	
Main Propertie(s)	Pulpiness	Thickener				
DAIRY SOLUTIONS						
Instant pudding		•	•			
Instant chantilly cream					•	
Processed cheese & analogue	•					
SPECIALIZED NUTRITION SOLUTIONS						
Baby milk formulates	•			•		



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Cook-up	Pregelatinized	Functional	Thin boiling	Specialties
---------	----------------	------------	--------------	-------------

CHARACTERISTICS (see more)	ROQUETTE STARCH FC 10	ROQUETTE STARCH FC 20
Raw material	waxy maize	
Friendly label	✓	✓
E-number or INS	-	-
Viscosity mild conditions	3	3
Viscosity rigorous conditions	2	2
Shear resistance	2	4
Stability	1	2
Main Propertie(s)	Thickener	
SAVORY SOLUTIONS		
Dry sauce mix: Brown sauce, gravies, bechamel	•	-
Dry sauce mix: Tomato	-	•
Fat-based sauce: Bearnaise, hollandaise	•	-
Fat-based sauce Mayonnaises & dressings	-	•
Hot processed sauce: Tomato sauce	-	•
Surimi, fish product	•	-
DAIRY SOLUTIONS		
Yogurt	-	•

Please refer to the “Friendly-label” row to find the ‘starch’-labeled ingredients, covering the Pregelatinized, Thin boiling, and Specialties categories.

SPECIALTY STARCHES TEXTURIZING AND FUNCTIONAL SOLUTIONS



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

 **SPECIALIZED NUTRITION AND OTHER SOLUTIONS**



SPECIALTY STARCHES

TEXTURIZING AND FUNCTIONAL SOLUTIONS

Characteristics of specialty starches

Characteristics' explanation of Roquette's starches

Raw material	maize, waxy maize, wheat, potato, tapioca, pea	
Friendly label	«starch» labeling possible	
E-number or INS	related additive denomination	
Viscosity mild conditions	From 1 (low) to 5 (high); suitability with pasteurisation and/or neutral pH	
Viscosity rigorous conditions	From 1 (low) to 5 (high); suitability with sterilisation and/or extreme pH	
Shear resistance	From 1 (low) to 5 (high); suitability to mechanical stress	
Stability	From 1 (low) to 5 (high); suitability over time	
Hot viscosity	From 1 (low) to 5 (high)	
Retrogradation	From 1 (low) to 5 (high)	
Main Propertie(s)	T : Thickener G: Gelling E: Expansion F: Film former M: Mouthfeel enhancer B: Binder P : Pulpiness EM: Emulsifier C : Crispy BA: Bulking agent na : non applicable	



Contact us

For more information, please contact us at

www.roquette.com

Request a sample