

PEKTOS CITRUS FIBER CF 1525

Functional Citrus Fiber



CITRUS FIBER CF 1525 –facts

- ❖ 100% pure Citrus Fiber, produced from South-American, specially treated citrus peels.
- ❖ Pre-processing loosens the strong bonds between the hemicellulose, pectin, proteins and sugars. The expanded fiber matrix provides enhanced functionality.
- ❖ **CITRUS FIBER CF 1525 C**: fine particle size, 150 micron (100 Mesh)
- ❖ **CITRUS FIBER CF 1525 A**: super-fine particle size, 70 micron (200 Mesh)
- ❖ Produced in Germany.
- ❖ Dispersions of CITRUS FIBER CF 1525 in water have a unique soft, non-flowing, syneresis-free, mousse-like texture, similar to a gelatinized starch slurry, and a smooth, non-fibrous mouth-feel.
- ❖ High dietary fiber content (min. 70%), high ratio of soluble fiber/HM pectin (approx. 35%).
- ❖ Clean-label, E-No. free. Labelled as Citrus fiber, fruit fiber, plant fiber or similar.
- ❖ Fine, beige/yellowish powder, weak citrus note.
- ❖ Gluten-free (< 20ppm)
- ❖ Non-GMO
- ❖ GRAS
- ❖ Kosher, Halal

CITRUS FIBER CF 1525 - *functionality*

Water Binding Capacity.

- ❖ WBC = 13 – 15* (1g fibre binds 13 – 15 g water), in aqueous dispersion with little mixing. *PEKTOS method
- ❖ WBC increases strongly to WBC = 20 – 25* and higher, through higher shear forces (high-speed mixer, homogenizer), creating a unique soft, non-flowing, stable mousse-like texture similar to a gelatinized starch slurry, without syneresis and with a smooth, non fibrous mouth-feel.
- ❖ Water binding capacity comparable to water holding capacity, strong affinity of the fiber to water.

Quick hydration.

- ❖ CITRUS FIBER CF 1525 starts hydrating immediately after contact with moisture and rapidly absorbs water.

Oil binding capacity.

- ❖ OBC = 4 (1g fibre binds 4 g of oil).
- ❖ Emulsion stabilization through water and oil immobilisation.

Texture, structure, viscosity enhancement.

- ❖ CITRUS FIBER CF 1525 has a relatively low viscosity in water, which strongly increases in dispersions of 3% or higher.
- ❖ Produces viscosity and body, a smooth, rich texture and structure and stabilises the water in various food systems.
- ❖ Substitute or extension for thickening agents, stabilisers and emulsifiers.

Gelation: The pectin in CITRUS FIBER CF 1525 is mainly HM pectin and therefore gels in high sugar / low pH conditions.

Process stability: CITRUS FIBER CF 1525 demonstrates excellent heat, pH, salt, shear and freeze/thaw stability in food products.

PDS

Please note:

The PDS shown in this presentation is not subject to the QM update service, and therefore may not be the latest version.

Please visit our website to view or download the latest version.

<https://www.pektos.ch/products-services/pektos-cf/>

PRODUCT DATA SHEET



PEKTOS CITRUS FIBER CF 1525

Origin, Raw Material, Production

PEKTOS CITRUS FIBER CF 1525 is

- Pure, undiluted, 100% Citrus Fiber.
- Produced from South American specially treated and processed citrus peels.
- Produced (milling, sifting, standardization) and packed in Germany.

Features, properties, functionality

Dietary fiber is the edible part of plants or analogous carbohydrates resistant to digestion and absorption in the human small intestine with complete or partial fermentation in the large intestine.

Dietary fiber includes polysaccharides, oligosaccharides, lignin, and associated plant substances. Functional fibers consist of isolated, non-digestible carbohydrates that benefit humans.

PEKTOS CITRUS FIBER CF 1525 is natural, gluten-free (EU limit < 20ppm), clean label, and multi-functional dietary fiber suitable for various food products through its high fiber content, water-binding and moisture retention capacity as well as the texture it creates and provides.

PEKTOS CITRUS FIBER CF 1525 is a fine or super-fine powder, beige with a yellowish tinge and weak citrus note.

- PEKTOS CITRUS FIBER CF 1525 C: fine particle size, 150 micron
- PEKTOS CITRUS FIBER CF 1525 A: Super-fine particle size, 70 micron

PEKTOS CITRUS FIBER CF 1525 is rich in soluble fiber, predominantly high ester pectin. The pectin remains functional, and

can gel in high solids and low pH conditions (≥ 58 Bx, \leq pH 3.3).

Total dietary fiber content: > 70 %
of which soluble: > 35 %
of which insoluble: > 35 %

The treatment and processing of the peels in their country of origin after the harvesting and juice processing weakens the strong bonds between the hemicellulose, pectin, proteins and sugars and leads to an enhanced functionality through an expanded fiber matrix, resulting in a significantly improved water-binding capacity (WBC).

The WBC of PEKTOS CITRUS FIBER CF 1525 is 12 - 15g water/1g fiber with only little mechanical treatment (for instance, by stirring it into water), but up to 20 - 25g water/1g fiber with high-speed mixing, and even higher if the fiber dispersion is homogenized. Oil binding capacity is approximately 4 g oil/1g of fiber.

PEKTOS CITRUS FIBER CF 1525 dispersions in water display a soft, pasty, stable texture without syneresis. The mouthfeel is smooth without noticeable sandiness.

In food systems with free water, PEKTOS CITRUS FIBER CF 1525 creates viscosity, texture, and body; it stabilizes the water and shows excellent process stability (heat, pH, salt, shear, freeze/thaw stability). It is a good substitute for gelling and thickening agents, stabilizers, and emulsifiers.

February 2023, v3

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PRODUCT DATA SHEET



Applications and benefits

- Bakery products
 - Gluten-free bread and cakes
 - Yield increase and freshness prolongation
 - Egg and fat replacement.
- Processed meat
 - Texture improvement
 - Moisture retention
 - Yield increase
 - Emulsion stabilizer
- Ice cream and frozen food
 - Ice crystal size-reduction
 - Heat shock and melting behaviour improvement
 - Suckability improvement
- Sauces, marinades, dressings
 - Thickener
 - Binder
 - Texture provider
 - Tomato paste replacer
 - Fat replacement
- Fruit preparations
 - Pectin extension and replacement
 - Texture and mouthfeel optimization
 - Thickening
- Dairy products
 - Thickening and texture improvement
 - Syneresis reduction
 - Anti-caking agent for grated cheese

- Beverages
 - Mouthfeel, texture, body supplier
 - Fruit extension/replacement
- Health Food, Nutraceuticals, and Supplements
 - Fiber supplement
 - Soluble and insoluble fiber source
 - Slimming and weight management
 - Digestion improvement
- Pet Food
 - Fiber supplement
 - Thickening & water binding

To our best knowledge, the information contained herein is true and accurate. Still, all recommendations or suggestions are made without guarantee since we can neither anticipate nor control the different conditions under which this information and our products are used. Therefore, each manufacturer should evaluate its final products to determine compliance with all relevant federal, state, and local regulations. Further, we can disclaim all liability concerning its customers' infringement of third-party intellectual property, including, but not limited to, patents



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Technical Data Sheet

PEKTOS CITRUS FIBER CF 1525 A

Description	PEKTOS CITRUS FIBER CF 1525 A is a pure citrus fiber produced for the food industry from South America, specially treated and processed citrus peels.
Declaration	Citrus Fiber
Applications	Clean-label food for structure, water binding, and freshness
Sensory	Appearance: free-flowing powder Colour: light beige Flavour: typical
Physical/Chemical	Moisture: < 10 % Water binding: 10 - 15 g / g fiber Ash: < 4 % Particle size: max. 10 % > 70 Micron
Microbiology	Total plate count: < 5,000 cfu/g Moulds and Yeast: < 1,000 cfu/g E. Coli: neg. in 1 g Salmonella: neg. in 25 g
Nutritionals	Energy: approx. 950 KJ / 230 kcal Total Fat: < 2.2 % - Saturated: < 0.7 % Protein: < 7 % Carbohydrates: < 11 % - Sugar: < 2.0 Dietary Fiber: > 70 % Sodium: < 0.05 %
Packaging	In 20 kg multilayer paper bags or boxes with PE liner.
Storage	Keep in a dry and cool place (rel. humidity < 65 %), protected from direct light.
Shelf life	24 months from the production date in unopened packaging.

Technical Data Sheet

PEKTOS CITRUS FIBER CF 1525 A

Country of Origin	Germany
HS Code	1302.3900
Purity / Compliance	
Heavy metals	Contents of heavy metals comply with Regulation 1881/2006/EC setting max levels of certain contaminants in foodstuff.
Pesticides	Residues of pesticides comply with the requirements of Regulation 396/2005/EC on max residue levels of pesticides in or on food of plant origin.
GMO	PEKTOS CITRUS FIBER CF 1525 A does not consist of genetically modified organisms and is not produced from genetically modified raw materials as defined in Regulations (EC) 1829/2003 and 1830/2003.
Allergens	The product does not contain allergens listed in Annex II of Regulation (EC) 1169/2011 and its current amendments.
Irradiation	The product is processed without the use of irradiation.
General	PEKTOS CITRUS FIBER CF 1525 A complies with the EU Food Regulations, Swiss Food Laws, and EC Regulations on the hygiene of foodstuffs. Please consult your country's laws and food regulations before using the product.

The information given in this document is provided by PEKTOS AG only as a courtesy and is intended to be general in nature. PEKTOS AG makes no warranty, express or implied, regarding its accuracy or completeness. The customer is solely responsible for determining whether the product is suitable for the intended use and for obtaining any necessary governmental registrations and approvals.

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Technical Data Sheet

PEKTOS CITRUS FIBER CF 1525 C

Description	PEKTOS CITRUS FIBER CF 1525 C is a pure citrus fiber produced for the food industry from South America, specially treated and processed citrus peels.
Declaration	Citrus Fiber
Applications	Clean-label food for structure, water binding, and freshness
Sensory	Appearance: free-flowing powder Colour: light beige Flavour: typical
Physical/Chemical	Moisture: < 10 % Water binding: 10 - 15 g / g fiber Ash: < 4 % Particle size: max. 5 % > 150 Micron
Microbiology	Total plate count: < 5,000 cfu/g Moulds and Yeast: < 1,000 cfu/g E. Coli: neg. in 1 g Salmonella: neg. in 25 g
Nutritionals	Energy: approx. 950 KJ / 230 kcal Total Fat: < 2.2 % - Saturated: < 0.7 % Protein: < 7 % Carbohydrates: < 11 % - Sugar: < 2.0 Dietary Fiber: > 70 % Sodium: < 0.05 %
Packaging	In 20 kg multilayer paper bags or boxes with PE liner.
Storage	Keep in a dry and cool place (rel. humidity < 65 %), protected from direct light.
Shelf life	24 months from the production date in unopened packaging.

Technical Data Sheet

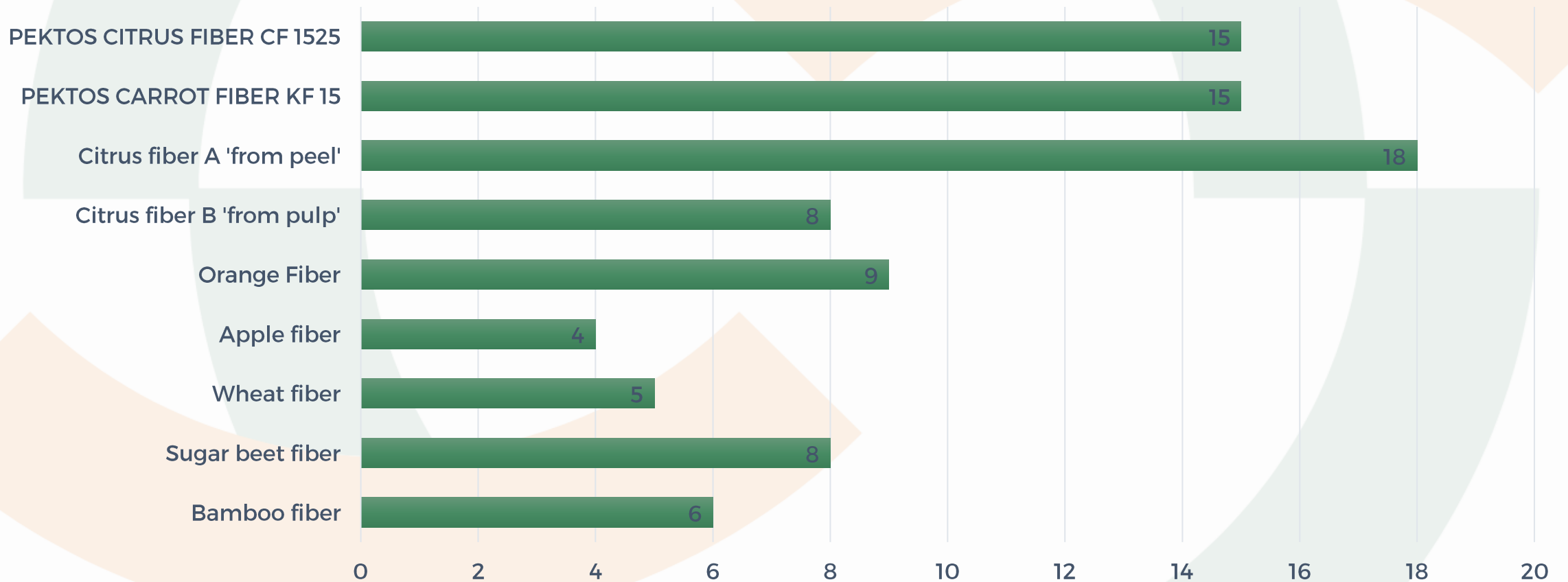
PEKTOS CITRUS FIBER CF 1525 C

Country of Origin	Germany
HS Code	1302.3900
Purity / Compliance	
Heavy metals	Contents of heavy metals comply with Regulation 1881/2006/EC setting max levels of certain contaminants in foodstuff.
Pesticides	Residues of pesticides comply with the requirements of Regulation 396/2005/EC on max residue levels of pesticides in or on food of plant origin.
GMO	PEKTOS CITRUS FIBER CF 1525 C does not consist of genetically modified organisms and is not produced from genetically modified raw materials as defined in Regulations (EC) 1829/2003 and 1830/2003.
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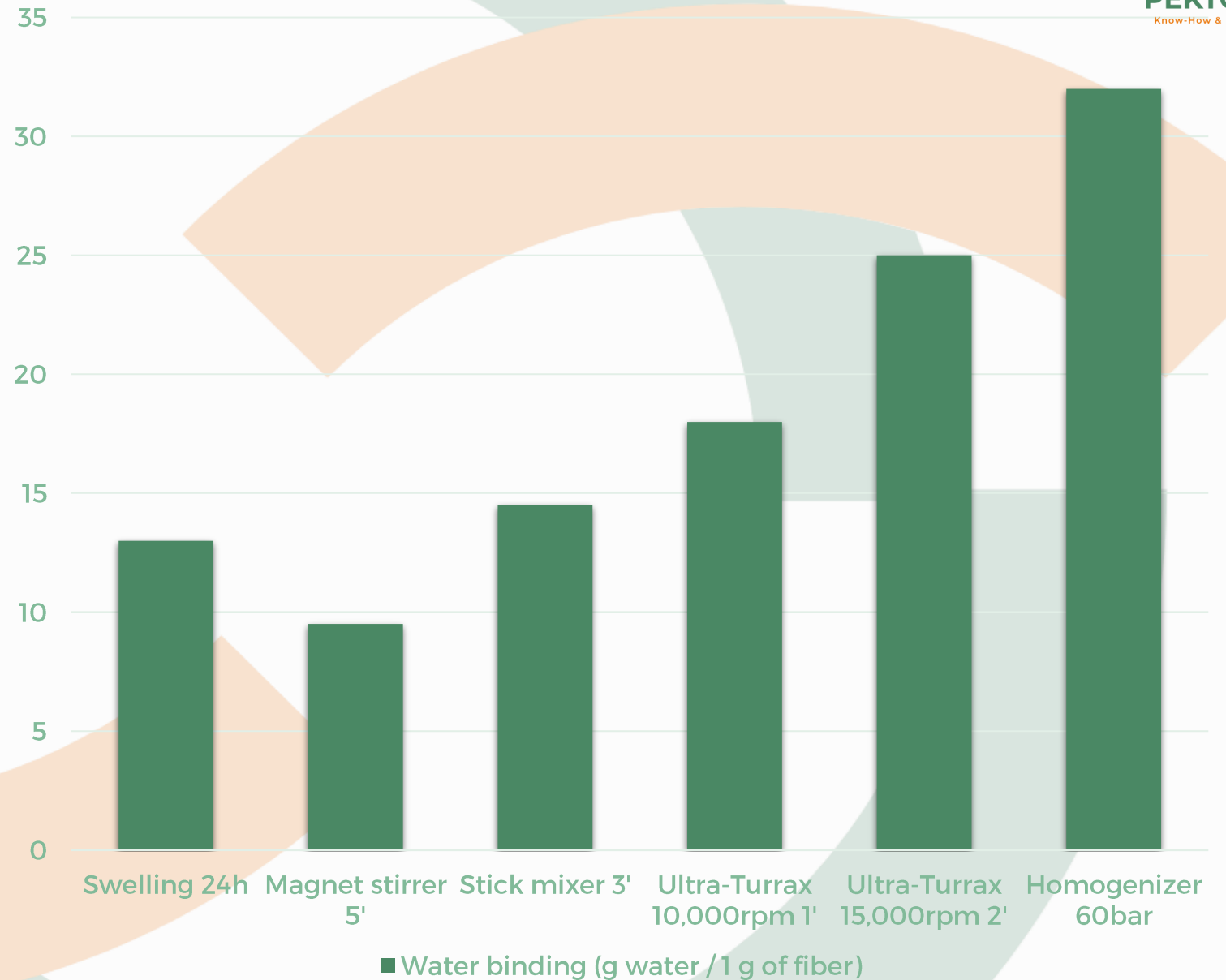
Water Binding Capacity of various commercial fibers

WBC in g of water/g of fiber, average value from various tests and methods



PEKTOS CITRUS FIBER CF 1525

WBC versus
Shear Rate of 3%
dispersions



CITRUS FIBER CF 1525 *Texture vs. Shear Rate*



**2.5% dispersions
magnet stirrer (left) / stick-blender (right).**



2.5% dispersion, Ultra-Turrax 10,000rpm, 1 min.

No Syneresis!!



2.5% dispersion, Ultra-Turrax 15,000rpm, 2 min.

CITRUS FIBER CF 1525 *Applications & Functions*

Processed meats *Texture supplier, yield improvement, moisture binding, emulsion stabilizer.*

Bakery *Gluten-free, freshness extension, fat reduction, egg reduction, yield increase.*

Fruit preps *Pectin extension, thickening, gelling, texture, mouth-feel, syneresis control.*

Ice cream, ice lollies *Ice crystal size reduction, suck-ability and melting improver.*

Dairy *Thickener, syneresis reduction, grated cheese anti-caking agent.*

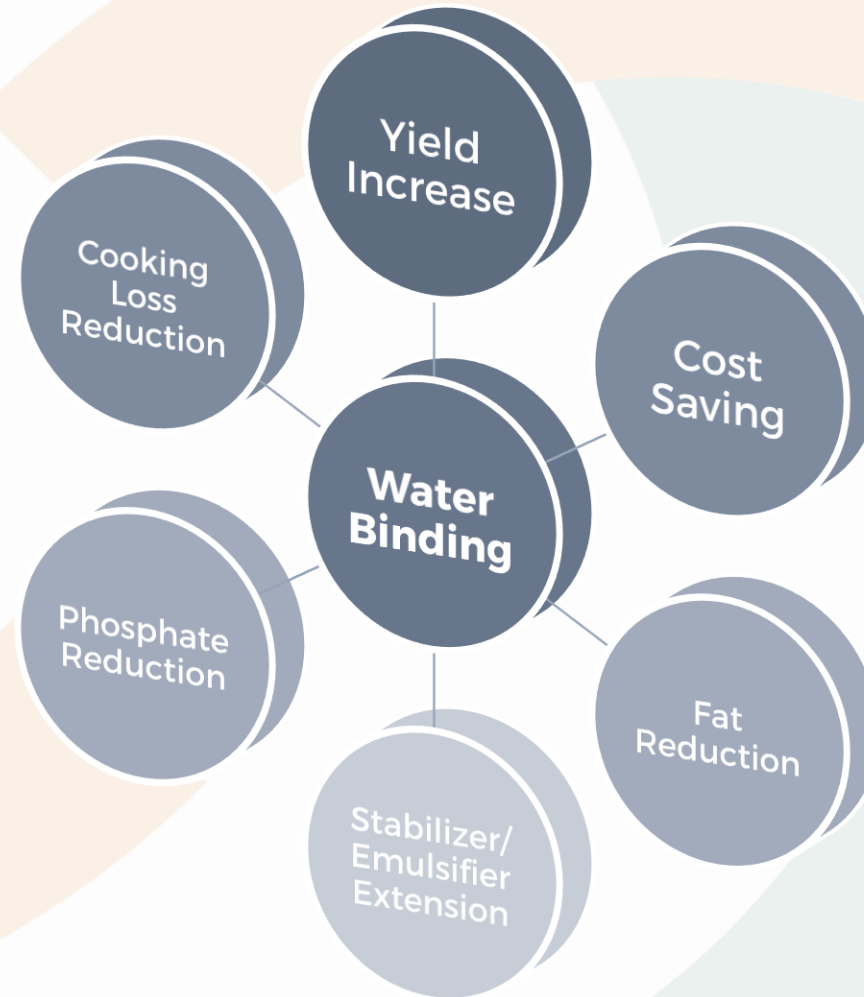
Sauces, dressings *Thickener, texture provider, emulsion stabilization, fat reduction.*

Beverages *Mouth-feel, body, texture, fruit extension, thickener.*

Health Food *Insoluble & soluble fibre source.*

CITRUS FIBER CF 1525 A *Processed Meat*

Cooked Sausages
Marinades
Canned Meat & Fish
Coatings
Beef Patties
Fillings
Pasta Fillings
Meatballs
Cured Meats



CITRUS FIBER CF 1525 C *Fruit Preparations*

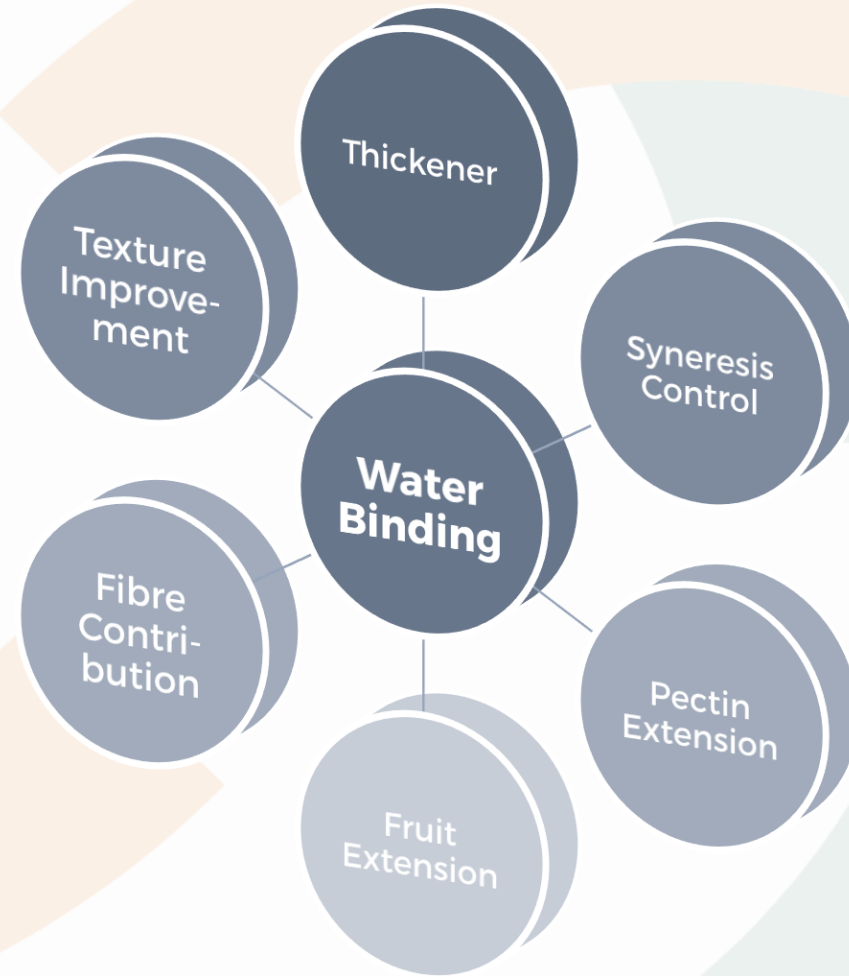
Bakery Fillings

- - Post bake
- - Pre-bake

Injection Jams

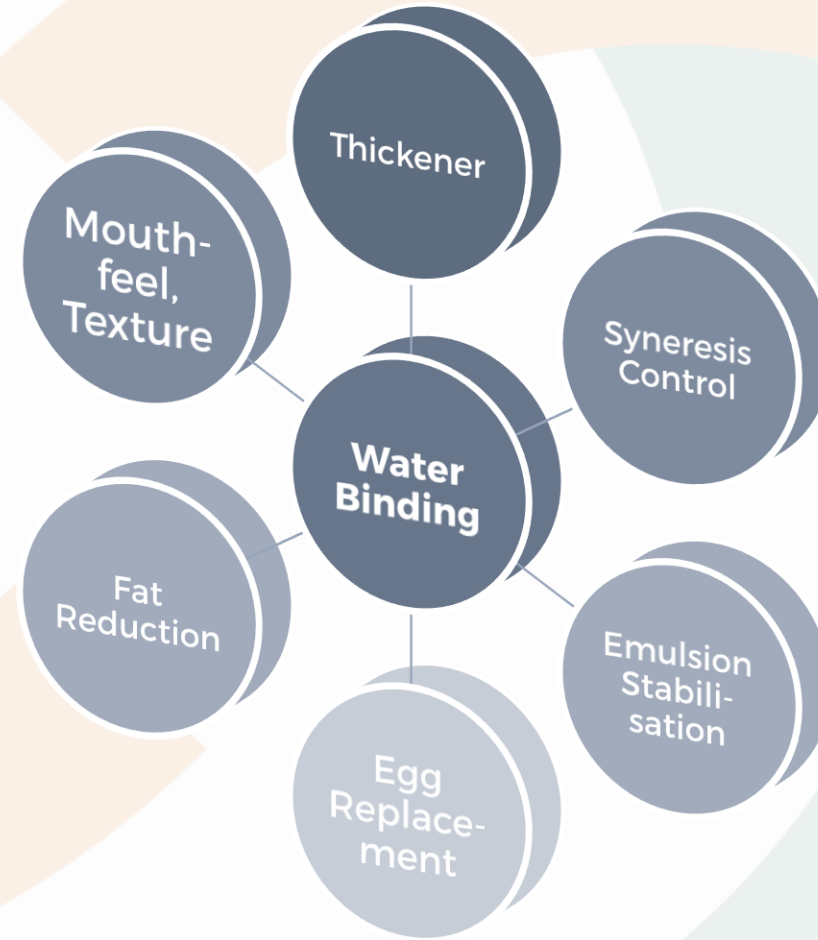
Ice Ripples

Yogurt Fruit Preparations



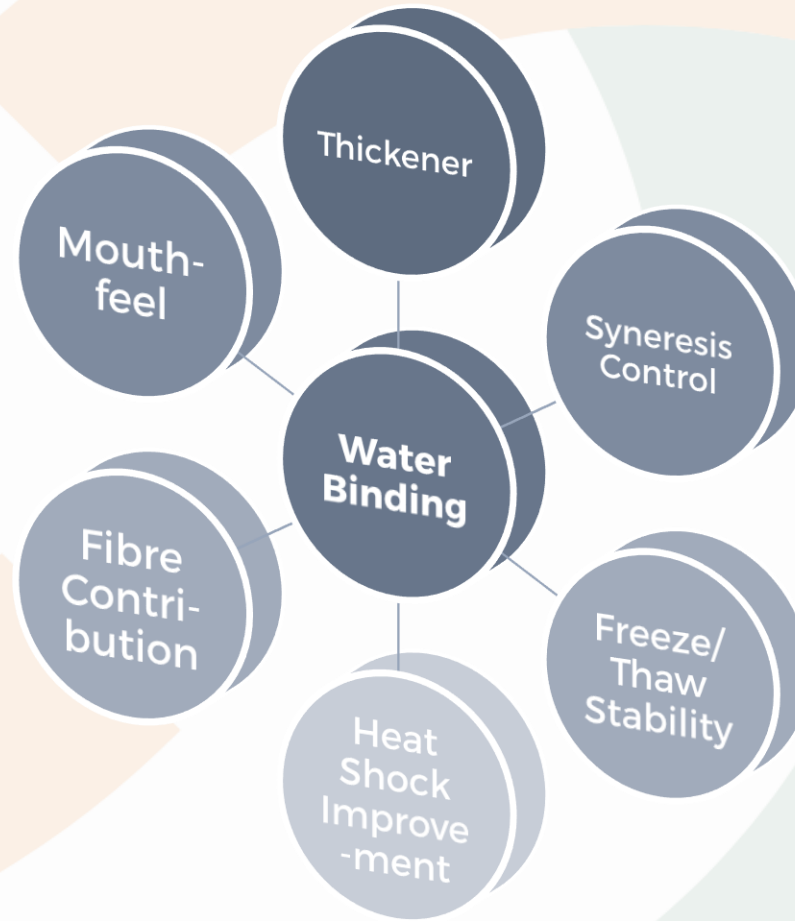
CITRUS FIBER CF 1525 C *Sauces, Condiments*

Dressings
Sauces
Marinades
Soups
Instant Soups
Mayonnaise



CITRUS FIBER CF 1525 C *Frozen Food*

Ice Cream
Sorbets
Ice Lollies
Frozen Dough
Pizza Toppings



CITRUS FIBER CF 1525 C *Bakery, Snacks*

Bread & Buns

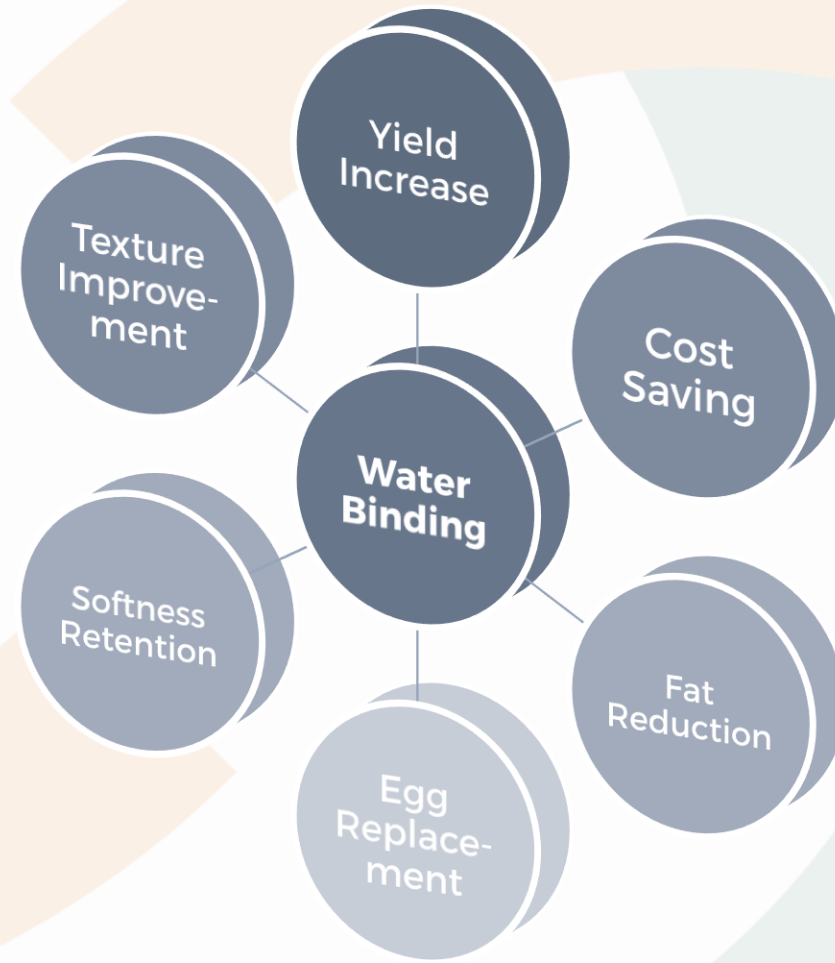
High Fibre Bread

Cakes, Muffins

Nutritional Bars

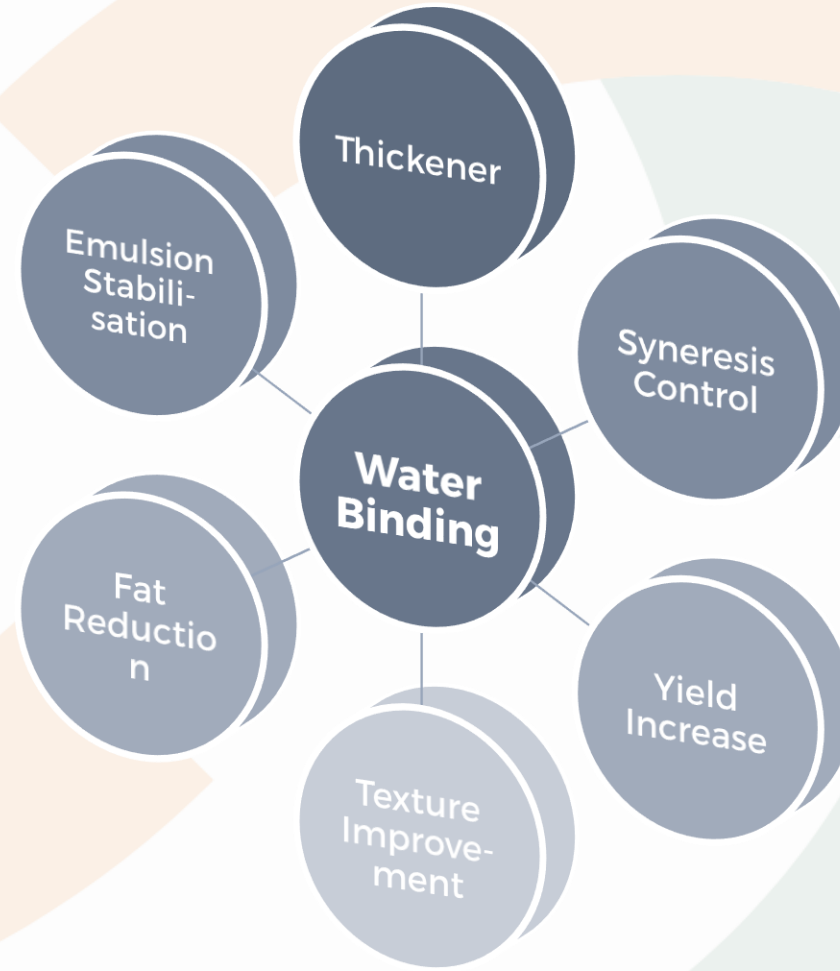
Crackers

Gluten-free Bread



CITRUS FIBER CF 1525 C Dairy

Yoghurts
Cooking Cream
Cream Cheese
Spreads
Quark/Cottage Cheese
Sour Cream/Schmand
Butter Spread



CITRUS FIBER CF 1525 C *Beverages*

'Near water' Drinks
Fibre Drinks
Liquid Breakfasts
Juice Drinks
Smoothies
Meal Replacement Beverages
Instant Beverages

