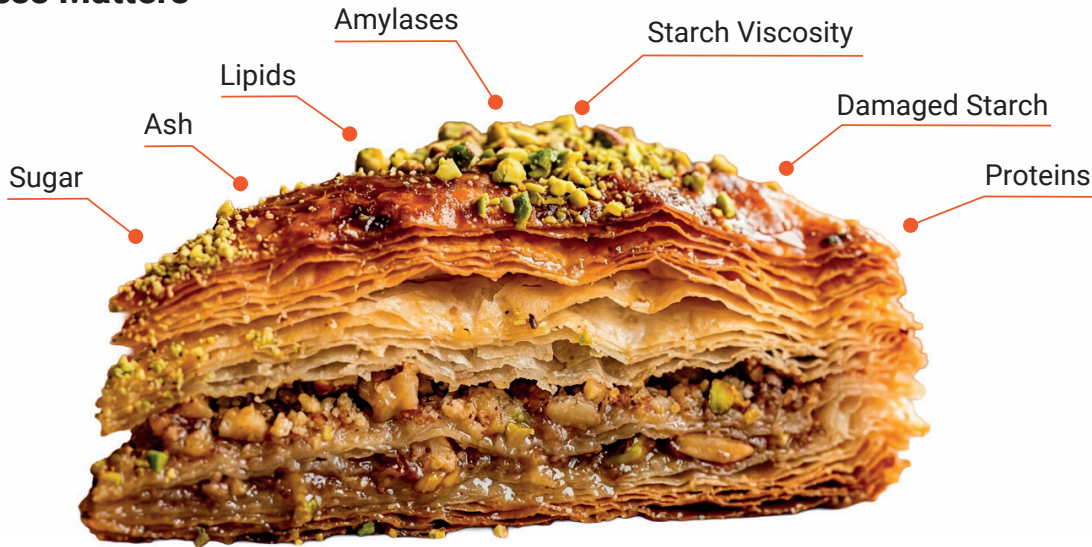


Why Flakiness Matters



- **Light and Airy Texture:** Flakiness gives a delicate, light texture with a crisp yet tender contrast between layers, and the air pockets make the product less dense.
- **Butteriness and Flavour Distribution:** Flaky textures often come from butter, whose layers distribute rich flavour through the product as the fat melts slightly between the layers.
- **Texture Contrast:** Flakiness contrasts with other textures in a dish, balancing a soft filling or sweet topping to create a more dynamic eating experience.
- **Mouthfeel and Eating Satisfaction:** Biting into a flaky product breaks it into layers, offering a satisfying crunch followed by a soft interior that makes eating more enjoyable.
- **Aesthetic Appeal:** Visible delicate layers make flaky pastries look inviting, and the texture itself signals attention to detail in the baking process.
- **Versatility in Cooking and Serving:** Flaky products suit many uses, from biscuits served as a side to pie crusts for savoury and sweet pies, pairing well with various fillings and toppings.
- **Signature of Quality:** Flakiness signals good craftsmanship, as in croissants or pie crusts where folded butter creates the layers people expect from well-made baking.
- **Crust Structure and Integrity:** Flaky layers support structural integrity, helping a pie crust hold its filling and keep its shape when cut without crumbling or turning soggy.
- **Longer Shelf Life (in Some Cases):** Flaky products can last longer than dense ones when baked to the right crispness, since the layers help retain freshness by keeping moisture from soaking in.

Key Flour Components Affecting Flakiness

Key Flour Components	Contribution to Flakiness	Mechanisms
Proteins	22%	Moderate gluten development is crucial for achieving layers during lamination; excessive gluten strength makes the dough tough and prevents clean layer separation.
Starch Viscosity	19%	Hydrated starch gelatinises during baking and gives bulk to the crumb, but excessive gelatinisation reduces flakiness and makes the texture denser.
Damaged Starch	15%	Excessively damaged starch disrupts the hydration balance needed for layering, leading to a less flaky texture
Amylase (Enzymatic Activity)	15%	Moderate activity supports yeast and even gas production for lamination, but overactive amylase degrades starch and weakens layer definition.
Lipids	15%	Fats coat flour particles, limiting gluten development and encouraging layer separation, and melting fat creates air pockets that build the flaky texture.
Ash Content (Minerals)	12%	Lower ash content in refined flours supports a lighter, flakier texture.
Sugar	2%	Sugar softens the dough by competing for water, which limits gluten development, while also contributing to browning and crispness during baking.

Consistent Impact Across Most Products

Impact Varies Significantly by Product Type

How Flour Components Impact Flakiness of Different Products ?

Flakiness	Starch Viscosity	Damaged Starch	Proteins	Amylase (Enzymatic Activity)	Ash Content (Minerals)	Sugar	Lipids
Cracker	2	2	3	2	2	1	3
Biscuit	3	2	3	2	2		1
Croissant	3	2	3	2	1		2

3: Strong Impact

2: Average Impact

1: Low Impact

Explore the Back to Flour Series
Connecting Flour Components With Bakery Product Excellence.
- Click here -

KPM Equipment for Monitoring These Key Flour Components



SpectraStar



Alveograph



Mixolab



SDmatic



Rheo F4