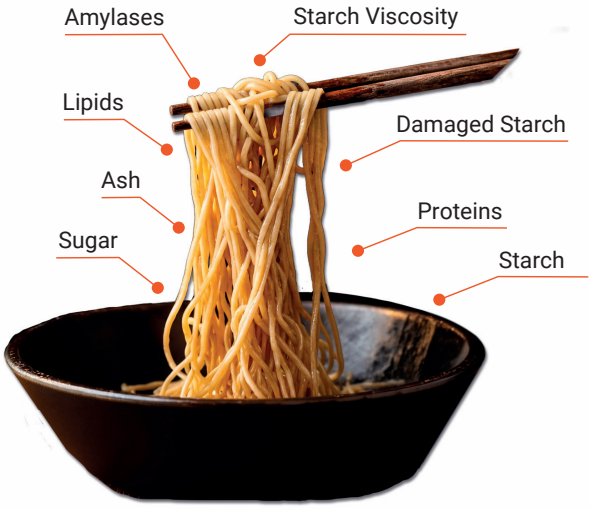
UNDERSTANDING WHAT IMPACTS STICKINESS OF BAKED PRODUCTS

Back to Flour Series

Why Stickiness Matters



- **Noodle Texture and Mouthfeel:** Surface stickiness keeps noodles chewy, bouncy, and helps them hold their shape while cooking instead of turning mushy.
- **Flatbread Softness and Flexibility:** Slight surface stickiness keeps flatbreads soft and flexible after baking, ideal for folding or wrapping, preventing brittleness.
- **Adhesion and Stretching:** Dough for noodles or flatbreads often needs stretching and shaping. Slight stickiness helps it hold together while rolling, and makes flattening more even for a smooth surface.
- **Cooking Performance & Durability:** Stickiness helps noodle strands bind during boiling or stir-frying without breaking apart, ensuring even cooking. For flatbreads, a sticky surface promotes even cooking, soft interior, and light charring.
- **Sauce Cling & Flavour:** Surface stickiness helps noodles adhere to sauces for better flavour, and helps flatbreads soak up dips and oils.
- **Ease of Handling:** Slight stickiness keeps flatbreads soft and pliable for dipping or wrapping, and lets noodles toss easily without breaking apart.
- **Retaining Moisture:** Surface stickiness helps noodles and flatbreads retain moisture, keeping textures soft longer. Flatbreads stay pliable, noodles avoid sogginess if stored properly.
- **Traditional Techniques:** In traditional methods like fresh pasta or naan, surface stickiness is key to achieving authentic texture and flavor. In pita, slight stickiness enables the characteristic pocketing during baking.

Key Flour Components Affecting Stickiness

Key Flour Components	Contribution to Stickiness	Mechanisms
Damaged Starch	21%	Damaged starch absorbs more water than intact starch, raising hydration and forming a gel-like consistency on the surface that increases stickiness during baking.
Proteins	21%	A strong gluten network gives structure, but insufficient development lets water migrate to the surface during baking and adds to stickiness.
Starch Viscosity	20%	During cooking, starch granules absorb water and swell; excessive swelling (especially of amylopectin-rich starch) leaches molecules and creates a sticky surface.
Amylase (Enzymatic Activity)	14%	Overactive amylase increases surface stickiness by producing too many soluble sugars
Ash Content (Minerals)	7%	Higher ash content increases water absorption, which can contribute to surface stickiness by creating a wetter dough. However, minerals also strengthen the dough structure, potentially mitigating excessive stickiness.
Sugars	7%	Added sugars can worsen stickiness by creating a syrup-like surface during baking.
Lipids	7%	The gluten network (glutenin and gliadin) gives dough structure and elasticity. Insufficient gluten development weakens this structure, letting excess water migrate to the surface during baking and contributing to stickiness.
Starch (Native)	3%	Starch is the main flour component governing the dough's water absorption.

Consistent Impact Across Most Products Impact Varies Significantly by Product Type

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How Flour Components Impact Stickiness of Different Products ?

Stickiness	Starch (Native)	Starch Viscosity	Damaged Starch	Proteins	Amylase (Enzymatic Activity)	Ash Content (Minerals)	Sugar	Lipids
Noodles		3	3	3	2	1		1
Flat Bread	1	3	3	3	2	1	2	1

3: Strong Impact 2: Average Impact 1: Low Impact

Explore the Back to Flour Series
Connecting Flour Components With Bakery Product Excellence.
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KPM Equipment for Monitoring These Key Flour Components


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