

Bread faults

To understand bread faults first we need to understand what is meant by the term “Good Bread”. There are few parameters by which a professional judges the quality of the breads. Those parameters are as follows.

1. Volume
2. Bloom of crust/shine
3. Colour of crust & crumb
4. Texture and structure
5. Shape
6. Moistness
7. Flavour
8. Taste
9. Oven break etc.

Now we will be discussing about ideal bread according to those parameters mentioned above.

1. **Volume** – it has to be considered with the relation to its weight (we can say specific volume). Too much volume will make the bread stale or crumbly where as less volume will turn the bread less flavoured and heavy.
2. **Bloom of crust/shine** – this is a really delicate quality of bread. a dull bread will reduce the eye appeal of bread and an artificially shined bread will clearly indicated presence of chemical in bread which again can be repulsive for the guests.
3. **Colour of crust & crumb** – crust colour supposed to be attractive golden brown. Preferred crumb colours are like white or light brownish according to the grade of wheat.
4. **Texture & structure** – crumb texture has to be light, soft, fluffy & consists of small even gas pocket networks (gluten networks). Any unusual hole, damages in crumb should be avoided. Similarly a smooth, even crust is desired in good bread.
5. **Shape** – symmetry in shapes is a characteristic of good quality bread.
6. **Moistness** – quality of bread is judged by the amount of moisture present in bread crumb.
7. **Flavour** – taste of any bakery product could be fully appreciated only when it is accompanied by matching flavour. A number of acids, bi-products and alcohols are responsible to produce right flavour for bread. These products are generally produced during fermentation only. So it is very important to give proper fermentation time to get good breads.
8. **Oven break** – when open top bread is getting baked, then upper and side surface crust forms earlier than the bottom surface. At that stage gas that has produced inside the crumb escapes out through the part where the crust yet to form (or you can say weaker part). Escaping of gas also can create some openings which technically known as “**oven break**”.

Some common bread faults

<u>FAULTS</u>	<u>SYMPTOMS</u>	<u>REASONS</u>
<ul style="list-style-type: none"> • Flying Tops- also known as exaggerated break, wild break or flaked crust ***** 	<ul style="list-style-type: none"> • Here the top crust instead of rising gradually burst open under the pressure of expanding gas. 	<ol style="list-style-type: none"> 1. Inadequately conditioned gluten 2. Insufficient proofing 3. Excessive heat in the oven 4. Lack of diastatic activity in flour 5. Lack of humidity in proofing chamber 6. Bread is not covered during proofing which may lead to skin formation on the top of the bread, specially in moulded breads like loafs, and that skin will give an unsatisfactory bloom of the crust
<ul style="list-style-type: none"> • Lack of shine on the crust/ lack of break shred 	<ul style="list-style-type: none"> • Having blind appearance, less glossy appearance. 	<ol style="list-style-type: none"> 1. In an over fermented dough gluten will loose its resistance power and will have excessive elasticity; in such a case gluten will not produce any break shred during baking. 2. An under kneaded dough 3. Over proofing
<ul style="list-style-type: none"> • Condensation marks 	<ul style="list-style-type: none"> • Dark colour patches on crumb. 	<ol style="list-style-type: none"> 1. If the bread is not cooled properly before packing some of the water vapours will deposit in the crumb.
<ul style="list-style-type: none"> • Uneven texture 		<ol style="list-style-type: none"> 1. Over fermented dough 2. Under fermented dough
<ul style="list-style-type: none"> • Stales/dries rapidly 	<ul style="list-style-type: none"> • Rapidly drying of the crumbs 	<ol style="list-style-type: none"> 1. Too cool oven, due to which baking time is prolonged hence more evaporation of moisture 2. Too high dough temperature which again causes undesirable

	Continued.....	evaporation of moisture 3. Over fermented dough with open structure which enables rapid drying 4. Too tight dough with less fermentation time 5. Use of milk without related changes to the ratio of fat & liquid 6. Excessive use of mineral improvers.
<ul style="list-style-type: none"> • <u>Sticky/over moist crumb</u> 		1. When flour is milled from sprouted wheat, it will have excessive diastatic activity, means excess formation of sugar & dextrin which can impart gumminess. 2. Excessive humid proofing chamber.
<ul style="list-style-type: none"> • <u>Close/dense crumb</u> ***** 	<ul style="list-style-type: none"> • Tight & dense crumb 	1. Using excess milk, as milk has tightening effect on gluten. 2. Excessive fat 3. Excessive oxidizing improvers 4. Over moulding 5. Under proofed dough 6. Tight dough 7. Too high oven temperature
<ul style="list-style-type: none"> • <u>Crumbiness of crumb</u> 	<ul style="list-style-type: none"> • This bread will not slice neatly, and may break into fragments by the pressure of slicer blades 	1. Due to too over or under fermented dough. 2. Too slack dough 3. Too tight dough 4. Excessive fat or too low amount of fat 5. Excessive mineral improvers 6. Low salt content 7. Poor quality of flour 8. Under mixed dough 9. Under baked bread
<ul style="list-style-type: none"> • <u>Lack of colour on crust</u> 		1. Too over fermented dough 2. Insufficient sugar 3. Insufficient salt
<ul style="list-style-type: none"> • <u>Too dark crust colour</u> ***** 		1. Excessive sugar in formula 2. Too much diastatic activity in dough 3. Un ripened dough/young dough 4. Too high oven temperature 5. High salt content 6. Too cold temperature 7. Lack of humidity in the oven
<ul style="list-style-type: none"> • <u>Leathery crust</u> 		1. Under fermented dough 2. Used too strong flour without giving enough time mature gluten strands 3. Excessive humidity in oven or proofing chamber 4. Too slack dough
<ul style="list-style-type: none"> • <u>Blisters</u> 	<ul style="list-style-type: none"> • Air bubbles on the crust 	1. A very humid proofing room can deposit droplets of water on the crust of the bread, that droplet can increase the elasticity of gluten due to presence of excess moisture at that point, which may cause blisters during baking. 2. Too slack dough which is not mixed properly 3. Air pockets present in the dough
<ul style="list-style-type: none"> • <u>Hard or flinty crust</u> 	<ul style="list-style-type: none"> • Very hard crust breaks like an egg shell 	1. Using too strong flour without giving adequate proofing time. 2. Too tight dough 3. Too much use of oxidizing improvers
<ul style="list-style-type: none"> • <u>Too thick crust</u> 		Less amount of oven spring can cause this problem. Less amount of oven spring can happen due to 1. Lack of diastatic activity 2. Lack of sugar & fat in the formula 3. Poor quality or too strong flour 4. Over fermented dough 5. Lack of moisture in the oven

<ul style="list-style-type: none"> • <u>Less volume</u> ***** 		<ol style="list-style-type: none"> 1. Too tight a dough 2. Too little or excess yeast. 3. Under fermentation 4. Crusting of dough 5. Excessive salt or sugar 6. Under proving 7. Too less amount of salt 8. Over or under mixed dough
<ul style="list-style-type: none"> • <u>Excessive volume</u> 		<ol style="list-style-type: none"> 1. Too slack a dough 2. Lack of oven temperature 3. Lack of salt 4. Too much of yeast 5. Excessive proving 6. Loose moulding
<ul style="list-style-type: none"> • <u>Holes & tunnels</u> ***** 	<p>Elongated holes or tunnels in crumb</p>	<p>This happens if some gluten strands get damaged, they also try to damage all neighbouring gluten strands, until gluten starts to coagulate under the action of heat. Reasons for damaging gluten strands may be:</p> <ol style="list-style-type: none"> 1. Too soft flour. 2. Too strong flour with high yeast content. Actually too strong flour needs to be fermented for longer period to condition the gluten properly, otherwise gluten strands break because of the excess gas produced by the extra yeast. 3. If enriching ingredients (like milk, eggs, fat) are not mixed properly or form lumps in dough. These lumps can create extra pressure on gluten strands in order to damage them. 4. Too hot oven sole forces the lower part to set faster, but the inner part of dough will still rise and create holes. 5. Improper knock back. Large gas cell/pockets presents in dough can burst during baking to create this fault. These large gas pockets need to be removed during knock back. 6. Excess flour that has used to dust the dough if folded in flour that also can create holes or tunnels in side.
<ul style="list-style-type: none"> • <u>Cores</u> ***** 	<ul style="list-style-type: none"> • Hard spots can be felt by touching the bread crumb 	<ol style="list-style-type: none"> 1. Uneven mixing of dough 2. Incorporation of small pieces or bits of dough that has collected by scraping the work table or mixing machine long time after the main dough has already set for fermentation. 3. Sometimes if dough was not covered with a damp cloth during fermentation, skin forms on the dough. This skin can create this problem if mixed in to the dough.
<ul style="list-style-type: none"> • <u>Seams</u> ***** 	<ul style="list-style-type: none"> • Dense moist layer on the outer crumb area, especially near the top crust. This faults happens only to moulded or tinned loaves. 	<ol style="list-style-type: none"> 1. Too hot or too cold bread mould can arrest the activity of yeast of the area of the dough which is in contact with the mould. 2. Weight of dough is more than the capacity of the mould. 3. Careless handling of a final proved dough 4. Disturbing the position of bread mould too much in oven.
<ul style="list-style-type: none"> • <u>sourness</u> 	<ul style="list-style-type: none"> • 	<ol style="list-style-type: none"> 1. Over fermentation 2. Excess yeast 3. Less amount of salt 4. High room or proving chamber temperature. 5. "Rope" affected bread