PASTRY

Short crust pastry

This type of pastry contains minimum 40% to even 80% **fat** than all other remaining ingredients.

Presence of excess amount of fat actually shorten the gluten strands to make **short, non-elastic dough,** which ultimately results to a very crispy product, hence the name is short crust.

Types of short crust

Sweet short crust/ Sweet Paste/ Pate' Sucre'

Savoury short crust

Sweet short crust/ Sweet Paste/ Pate' Sucre'

Soft flour – 3 part

Fat – 2 part

Icing sugar – 1 part

Chilled moisture (water/milk/egg) – to bind

Vanilla essence (opt) – as required

Savoury short crust

Soft flour – 2 part

Fat – 1 part

Salt – as required

Chilled moisture (water/milk/egg) – to bind

Methods

There are two popular methods to make basic short crust pastries:

1. Rub – in
2. Creaming

Rub – in method

Mix flour and fat lightly with finger tips until it resembles breadcrumb (add salt also in case of savoury dough).

Blend icing sugar properly (for sweet paste)

Add moisture, mix lightly with fingertip to collect to a non elastic dough. (for sweet paste add vanilla with the moisture)

Rest in refrigerator at list for 20 minutes before further use.

Creaming method

Cream the fat till it is light and fluffy. Fat must be creamed till soft peak stage. Add sugar gradually to fat and continue creaming. (for sweet paste) Add eggs (if you are using) to the fat and mix to a smooth emulsion. Lightly mix the flour to the emulsion to collect to a short crust dough (for savoury dough salt has to be mixed with flour)

**** if you are using water or milk as source of moisture then add them at last to bind, because they will make your life difficult to make the emulsion with the fat. Rest in refrigerator at list for 20 minutes before further use.

Important info……..

Baking specification: Bake at 350 F for 10-15 minutes

Baking blind: To bake any empty short crust shell for further processing.

Docking: piercing the lined dough before blind baking so that generated steam can escape out easily without distorting the shape.

Or simply one can place a baking parchment on the lined dough and can fill with clean stone chips or dry pulses to apply pressure in order to avoid distortion during baking.

Popular derivatives

- Pies (single & double crusted)
- Tarts
- Flan
- Quiche
- Tartlets
- Turn over
- Shortbreads
- Simple cookies

Faults.....

Tough pastry - Due to too much liquid, too little fat, over-handling or insufficient rubbing in.

Shrunken – either overcooked or not rested properly before baking. Or the baking weight was placed to firmly.

Stuck to the mould – too much liquid.

Shape distorted after blind baking – not docked properly. What Went Wrong

Soggy pastry - Filling too moist or sugar in a sweet pie in contact with pastry. For a double crust pie, use ideally a metal pie plate and butter the pie plate before lining with pastry.

Sunken pie - Oven temperature too low; cold pastry put over hot filling; too much liquid in filling or too little filling. What Went Wrong

Speckled pastry – Un dissolved sugar grains in enriched pastry crust

Soft & crumbly - Too little water; too much fat or self-raising flour used instead or plain

Pastry blisters - Fat not rubbed in sufficiently, Too much water

LAMINATED DOUGHS

Laminated dough consists of alternative layers of puff margarine, butter, lard or even oil and soft pliable dough. This is done by rolling the dough into thin rectangle then folding it several times after encasing fat by it.

Different types of laminated pastries that used in bakery are –

Puff pastry Danish pastry Croissant

Phyllo/ Filo pastry

Strudel dough

A laminated pastry can be made from both fermented and flat dough.

HOW LAMINATED PASTRY IS AERATED??

All the methods of making laminated pastries are designed to produce a laminated structure in which thin layers of tough fat are interleaved with equally thin layers of dough. When we bake the pastry the thin layer of fat melts and form oily layers between two leaves of dough preventing them from sticking together, or simply it lubricates the doughy layers. As the heat penetrates more, the water in the doughy layer as well as in fat layers changes into steam. The steam finds its way between the various layers of dough, and causes expansion of elastic gluten strands or films of the dough by pushing lubricated doughy layers apart from each other. This produces a great increase in the volume of the piece of the pastry. Later the gluten of the flour is coagulated while the excess water is dried out, so by that time it is properly cooked and able to retain the shape and fluffy volume.

DESIRED QUALITY OF THE COMMON INGREDIENTS TO BE USED FOR LAMINATED PASTRY

FLOUR - laminated pastry must be made with reasonably strong flour, and its gluten should be still further strengthened by addition of acids. To handle the pressure of the steam, the gluten quality has to be good and very elastic in nature, either the pastry will tear because of the steam pressure from inside which can cause the total steam to escape out through the torn part, which will ultimately cause to collapse the pastry.

FAT – the most important two characteristics that a fat requires to be suitable for laminated dough making are -

High melting point – it must have a high melting point otherwise it will melt during rolling and folding because of the heat generated from friction of dough with rolling pin and work table.

Plasticity – this indicates to the power to retain its shape and elasticity of the fat. Plasticity can be checked by following method - Numerous pieces are cut off the margarine (approximately 1 - 1½ cm in width). The pieces are bent and kneaded. If the margarine exhibits a poor plasticity, the margarine will break during bending; the poorer the plasticity, the more breaking.

Some other important things that one needs to check before selecting fat for laminated dough are –

Flavour Kneading quality.

Most suitable option for making laminated is a specially prepared PUFF MARGARINE with high melting point, plasticity and low moisture content. Sometimes lard or a slab of butter-flour mixture also can be used.

ACIDS – citric acid (lemon juice), diluted acetic acid (vinegar), and cream of tartar can be used to increase the pH value of the dough in order to strengthen the gluten strands.

SALT - Salt is used mainly as a preservative, and seasoning to the dough.

MOISTURE – Generally 50 – 55% of moisture is used to make the dough. Water is the most common source of moisture in this case, but milk, egg also can be used partly to enrich the dough (mostly in case of Danish pastry and croissant). The moistures have to be chilled to be used in laminated dough to control the temperature of the dough, to avoid the melting of fat during working.

PUFF PASTRY

This type of laminated pastry is most common of its category, made from soft smooth non fermented dough, can be classified on the basis of amount of fat that has incorporated by lamination process:

Rough puff – below 50% fat of the weight of flour

Flaky pastry – 50 – 75% fat

Full puff – 100% fat

Products that can be made from puff pastry are –

Patties

Turn over

Pie / tart shell Vol-au-vent Cheese straw Palmiers Khara biscuits Pithiviers Mille feuille etc.

Methods of making puff pastry:

ENGLISH METHOD – firstly a clear dough has to be made and then rested for a short while to mature the gluten strands,

10% of fat from total fat to be used for lamination can be added to the dough to get a shortened crisp effect on the finished product. Then we need to knead the fat to give it a homogenous, pliable texture and have to divide that in to three equal portions. Next step is to roll the dough in to a rectangle of 1" thickness and apply one portion of fat to 2/3 portion of the rectangle, then the untreated 1/3 part has to be folded first to cover half of the fat treated area, and then the remaining fat treated 1/3 portion to be folded to get a rectangle of smaller size. This folding procedure is known as HALF TURN. After few minutes of resting, preferably in refrigerator the pastry again needs to be rolled to a rectangle of 1 to 1/2 " thickness and again to be folded following the same manner, but without applying fat this time, hence we will complete another half turn. These two half turns will complete one full turn.

In English method total 3 full turn or 6 half turn has to be given to the dough, among which three half turns to be given with fat, and three half turns to be given without fat. Half turn with fat and half turn without fat should be given alternatively. In this method we will get a dough with 729 layers.

Make the dough and rest it for few minutes, then give two deep incisions like the picture. Then roll the dough from four cut corners two get star shape dough with four flaps, like the picture. The thickness of the flap should be $1/4^{th}$ of the thickness of the middle part of the dough. Place all the fat at the middle of the dough and envelope the fat completely with the flaps. Then like English method only we need to give 6 HALF TURNS. But here the folding should be a BOOK FOLD or FOUR FOLD TURNS where the two ends meets at the center and then again fold over once. Here we will get 1024 layers.

SCOTCH METHOD – This is a method which is widely used commercially to prepare a very flaky type of puff with uneven texture, which is also known as "Rough puff" by few bakers. This is a very simple method where we mix dices of puff margarine with flour, moisture, egg and acid to make lumpy type of paste. Then it has to be rolled and folded like English method only. While rolling the cubes of butter become rolled out in very thin flaky layers to give a laminated effect. Usually an extra half turn is given to puff pastry made by scotch method to allow the first half turn to act as a "Clearer turn".

SWISS METHOD OR CRUSTLESS PUFF PASTRY –

Swiss confectioners use a very unique method to make a crustless or moist crust puff pastry. The method adopted is the very simple of one of revering our normal procedure in that bthe dough is enfloded in the puff margarine so that the outer covering/layer is unable to form a dry crust. To enable this to be done the butter or margarine is first blended with about a quarter of its own weight of flour. (eg. In case of a full puff 1kg of margarine is blended with 250 gms of flour and then a 750 gm flour has to be used to make the dough, that to be laminated).

For the first rolling generally excess amount of dusting is needed, and then there will be no difference with French method. In this method the pastry will give a bright shine than puff dough made by any other orthodox method.

DANISH PASTRY

Danish pastry is a sweet pastry which has become a specialty of Denmark and the neighboring Scandinavian countries and is popular throughout the world, although the form it takes can differ significantly from country to country. It is a yeasted laminated dough which can be stuffed with dry fruits, nuts, custards, marzipan and can be flavored with various suitable spices like cinnamon, cardamom etc. generally served as breakfast roll.

CROISSANT

A croissant is a buttery flaky bread or pastry named for its distinctive crescent shape. It is also sometimes called a crescent or crescent roll. Croissants are made of a leavened variant of puff pastry. The yeast dough is layered with butter, rolled and folded several times in succession, then rolled into a sheet, a technique called laminating. Croissants have long been a staple of French

bakeries and patisseries. Variations may be a cheese, chocolate, cream, savory filling such as bacon filled croissant. It is also a breakfast roll.

PHYLLO/FILO PASTRY

Phyllo, filo, or fillo dough is paper-thin sheets of raw, unleavened laminated flour dough used for making pastries in Greek, Middle Eastern and other regional cuisines. Can be used for various snacks and dessert like baklava, savory envelops
etc.

STRUDEL DOUGH

A strudel is a type of layered pastry with a — most often sweet — filling inside, often served with cream. It became well known and gained popularity in the 18th century throughout the world. Strudel is most often associated with Austrian cuisine but is also a traditional pastry in the whole area formerly belonging to the Austro-Hungarian Empire. Here first an oil shortened dough is pulled and stretched by hand and then brushed with oil, after putting filling it has to be rolled like a Swiss roll. It is a good example of oil laminated dough.

CHOUX PASTRY

HISTORY:

It was invented by the French chef Antonin Carême. The name comes from the French for cabbage, chou, because of the
characteristic shape of the cream-filled puffs.

The cream puff is believed to have originated in Italy. When Catherine de Medici moved to France in 1533 she brought with her to France her entire court, which included her chefs. Her head chef by the name of Panterelli made gâteaux with a dried hot dough he invented, called pâte à Panterelli. The pastry later became know as pâte à Popelin, and Popelins were a form of cake made in the Middle Ages in the shape of large puffs. Perfected by Avice and later by Antoine Carême, this dough became the same recipe for choux pastry as it is used today.

The Choux Pastries dough, called panade, is a dough that is cooked before being baked. It starts with simple dough of water, butter, flour, and eggs. During baking the eggs help form a thin crust on the outside, while the steam trapped inside expands giving to the pastries a typical puffed hollow shape.

The pastries can be filled and assembled to form Profiterols, Croquembouche (stacks of profiteroles glued together with caramel), gâteau St.-Honoré, etc. In Italy Choux Pastries filled with custard are often stacked in a tall pyramidal shape. Chocolate is poured on the stack and decorated with whipped cream.

POINTS AND PRECAUTIONS TO BE KEPT IN MIND WHILE MAKING THE CHOUX PASTRY:

1) The quantity of egg should be just right. If the recipe calls for 4 eggs I add the first 3 and the last a little at the time in order to control the consistency. Too much egg will cause the *panade* to be too liquid and unable to hold the shape when is baked.

2) The *panade* needs to be cooked carefully till is smooth and dry. If it is undercooked the ingredients could be un-evenly mixed, and it would retain too much moisture.

3) Do the preparation very quickly. Piping and baking the *panade* immediately when is still warm will help lightness and expansion.

4) Bake the pastries until they are crisp, dry and golden. If the pastries are undercooked they could collapse when they are removed from the oven. Also it is preferable to cool the pastries slowly in the oven.

5) When making choux, cut the butter into small pieces so it melts quickly and evenly, reducing the amount of water that evaporates.

6) All the flour must be added at once so it cooks evenly. Beat vigorously until them mixture is smooth and comes away from the side of the pan. Do not over-beat.

7) Set the mixture aside to cool slightly so the eggs don't cook when they are beaten in.

8) The amount of egg required varies with each batch. It depends how big the eggs are and how much egg the flour absorbs. Too much egg will make the choux rise unevenly and spread. Not enough egg and the choux will be stodgy.

1. 9)Baked choux pastry products rise due to the egg content and steam. Therefore it is essential that the oven is hot, when placed in the oven. Without this initial burst of steam they will not rise properly or dry out, they will stay flat and be soggy.

CLIPS SHOWING MAKING OF CHOUX PASTRY:

Place the water, butter, and salt in a heavy saucepan. Bring to a boil. When the butter is completely melted, remove from the heat and add the flour all at once.

Mix rapidly with a spatula

. . until fully combined.

Place the mixture on the stove on low heat, and drymixing

Transfer to a bowl and spread to cool. Let the dough cool for at least 5 minutes.

Add the eggs one at the time . . .

mixing thoroughly after each one is added . . .

The dough should be smooth, shiny and as thick and as heavy as mayonnaise. Preheat oven 370 F (190 C).

Cover a large cookie sheet with parchment paper. Fill a pastry bag with the dough.

Using a pastry bag filled with the dough or a spoon, make small balls about 1 -inch (2 - 3 cm) size.

Brush the top with the egg wash.

Bake for about 35 minutes or until well puffed and golden. Shut off the heat , open the oven half way, and let the puffs cool slowly and dry for about 1 hour. The puffs may collapse if they are cooled too fast.

DETAILS OF SOME OF THE CHOUX PASTRY PRODUCTS:

Profiterole:

A **profiterole** is a dish of choux pastry balls filled with whipped cream or pastry cream; or very commonly in the US and France, ice cream. The puffs may be left plain or made to resemble swans or garnished with chocolate sauce, caramel, or a dusting of powdered sugar. In the US, a **profiterole** may also be known as a **cream puff**, though in the UK a cream puff would be made with puff pastry.

VARAITIONS: A **moorkop** is a Dutch pastry like a profiterole. It is usually not glazed with chocolate, but with a chocolate-flavoured glaze made with cocoa powder. Sometimes a puff of whipped cream is added to the top.A

Bossche bol (Dutch for 'Den Bosch ball'), sometimes called **sjekladebol** ('chocolate ball') in its city of origin, is a pastry from the Dutch city of 's-Hertogenbosch (also called Den Bosch). It is effectively a large profiterole, about 12 cm/5" in diameter (i.e. somewhat larger than a tennis ball), filled with whipped cream and coated entirely or almost entirely with (usually dark) chocolate.

A **reuzenbol** (Dutch for 'giant ball') is a Dutch pastry similar to a giant profiterole, or a larger version of a Bossche bol.

Croquembouche:

It has at its origins a fanciful, edible, architectural structure displayed on the medieval tables of the French Royalty and Nobility. It was later popularised by Antonin Carème (1783 - 1833), the most famous French Chef of his generation.

He created Turkish Mosques, Persian Pavilions, Gothic Towers and other pièces montées from choux buns or profiteroles.

A ***croquembouche*** or ***croquenbouche*** (as it is more commonly called in French) is a French cake, a kind of *pièce montée* often served at weddings, baptisms, and first communions. It is a high cone of profiteroles (*choux* filled with pastry cream) sometimes dipped in chocolate bound with caramel, and usually decorated with threads of caramel, sugared almonds, chocolate, flowers, or ribbons. They are also often covered in macarons, a small pastry consisting of two layers and a flavored cream or ganache. The name comes from the French words *croque en bouche* meaning 'crunch in the mouth'. The profiteroles can also be made with savoury fillings.

St. Honoré Cake

St. Honoré Cake is named for the French patron saint of bakers and pastry chefs, Saint Honoré or Honoratus (d. 600
AD), bishop of Amiens. This classic French dessert is a circle of puff pastry at its base with a ring of pâte à choux piped on the outer edge. After the base is baked small cream puffs are dipped in caramelized sugar and attached side by side on
top of the circle of the pâte à choux. This base is traditionally filled with crème chiboust and finished with whipped cream

Some other products include:

- Pomme Dauphine (choux paste mixed with duchesse potatoes)
- Gnocchi Parisenne (small poached dumplings masked with Mornay sauce and gratinated)
- Garnish for soups such as consommés

- duchesses for canapés (small eclairs filled with savoury mousses)
- Caroline's (crescent shaped and filled with savoury mousses topped with chaud-froid sauce)

FLOUR

WHEAT MILLING PROCEDURE

There are two distinct methods of milling wheat

a) Stone milling b) Roller milling

Any milling process consists of at least these 5 steps as mentioned below:

1. Grading
2. cleaning
3. Conditioning
4. Blending/ Grinding
5. Milling

1. **Grading:** grading is a procedure to remove different undesirable particles from wheat grains after receiving directly from suppliers. Here we generally try to remove
   - Damaged kernel
   - Heat affected kernels
   - Fungus affected kernels
   - Castor bean
   - Grass seed
   - Glass
   - Stone
   - Animal filth
   - Unknown foreign elements

2. **Cleaning:** this process includes the cleaning of wheat and much more complicated than may appear at first sight. This process is carried out to

remove any type of impurities & dirt from the grains. Nowadays a lot of modern machineries are being used to clean grains before further processing.

Separator **–** two reciprocating screens remove stone, sticks and other coarse material remained after grading.

- Aspirator – air currents removes fine and lighter impurities.
- Scourer – beaters in in screen cylinders scour off impurities and roughage.
- Disc separator – barley and other foreign material is removed.
- Magnetic separator – iron objects are removed
- Washer – Stoner – high speed rotors circulate wheat and water. The process removes the stones.

3. **Conditioning:** conditioning takes place before milling to produce a uniform moisture content through out the grain. It helps to prevent break up of the bran during milling and improves separation from the floury endosperm. The wheat conditioning for milling consists of two processes:
   - damping
   - tempering.

The water is added and has to penetrate into the grain. The goal is to modify and soften endosperm and seed oat texture to yield large semolina and bran without endosperm, with minimal power consumption.

Then dry air is passed through the wheat grains to control the percentage the of moisture in the grains & to achieve the suitable moisture percentage level in grain for milling. The amount of added water and the tempering time depend on initial moisture, temperature and endosperm structure-texture. Suitable end moisture percentage of grain for milling is 16-17.5%. Water addition is controlled by automatic systems nowadays. The tempering takes place when the wet grains

are stored into specific bins (Also known as “SILOS”). Hot water pipes and fitted electric fans are used to temper the wheat grains.

4. **Blending/.Gristing:** After conditioning different batches of wheat are blended together (gristed) to make a suitable mix which is capable of producing the required flour quality.

5. **Milling: Machine milling**

This method simply can be described as separation of the bran and germ from the endosperm and the reduction of
endosperm to a uniform particle size by a series of breaking, grinding and separating operation.

- At first wheat grains passes through sets of break rolls, some bran is separated and lifted off by the air current and very small amount of flour is milled and separated.
- Large chunks of kernel are again directed to the second set of break rolls. In this step bran are almost removed. In this step we generally obtain semolina.
- At this stage the wheat grains are broken into pieces of various sizes which are graded and separated by a “Plan- sifter”. This sifter consists of different size of sieve where the uppermost sieve has largest whole and in descending order the lower most sieve has smallest whole to separate & collect the pieces of similar size.
- From the plan-sifter now different size pieces will directed to different break roll accordingly for further processing/grinding.
- At least five times that above mentioned cycle is completed to finish the milling procedure.

Stone miling

This process was almost obsolete nowadays. This is a fairly simple construction and consists of two heavy circular rough stones lying one top of the other. The bottom stone remains fixed while the upper stones revolves upon it. Wheat grains are poured from the centre of the top stone (also known as "RUNNER"), trickled down, crushed and at last find its way from outwards joining of two stones.

Characteristics of stone milled flour:

- Because of the excess heat produced by the friction of two large stones the natural fat from germ melts down and absorbed by the flour very easily. Though it gives a good flavour, but it reduces the shelf life, as that fat becomes rancid very quickly.
- Darker colour than machine milled flour.
- Contains more amount of fibre.

As well as releasing oils present in the germ, the stone milling process allows proteins and enzymes present in the germ to come in direct contact with the endosperm. Some of these substances have an adverse effect on gluten structure. Some of these substances known as glutathione - which is really a collective term for a group of tripeptides - play the role of a 'reducing agent' when in contact with gluten strands. A reducing agent behaves a bit like a pair of scissors cutting gluten strands into shorter units resulting in reduced fermentation tolerance, smaller bread volume, sticky dough character, less extensibility, etc. This is why cooler dough temperatures and slightly shorter fermentation times are usual when baking with stone-ground meal/flour

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 "**o v en b reak"** .

Some common bread faults

FAULTS	SYMPTOMS	REASONS
Flying Tops- also known as exaggerated break, wild break or flaked crust	Here the top crust instead of rising gradually burst open under thepressure ofexpanding gas.	Inadequately conditioned gluten Insufficient proofing Excessive heat in the oven Lack of diastatic activity in flour Lack of humidity in proofing chamber Bread is not covered during proofing which may lead to skin formationon the top of the bread, specially in moulded breads like loafs, and that skin will give an unsatisfactory bloom of the crust
Lack of shine on the crust/ lack of break shred	Having blind appearance, less glossy appearance.	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. An under kneaded dough Over proofing
Condensation marks	Dark colour Patches on crumb.	If the bread is not cooled properly before packing some of the water vapours will deposit in the crumb.
Uneven texture		1. Over fermented dough 2. Under fermented dough
Stales/dries rapidly	Rapidly drying of the crumbs Continued…..	Too cool oven, due to which baking time is prolonged hence more evaporation of moisture Too high dough temperature which again causes undesirable evaporation of moisture Over fermented dough with open structure which enables rapid drying Too tight dough with less fermentation time Use of milk without related changes to the ratio of fat & liquid Excessive use of mineral improvers.
Sticky/over moist crumb		When flour is milled from sprouted wheat, it will have excessive diastatic activity, means excess formation of sugar & dextrin which can impart gumminess. Excessive humid proofing chamber.
Close/dense crumb	Tight & dense crumb	Using excess milk, as milk has tightening effect on gluten. Excessive fat Excessive oxidizing improvers Over moulding Under proofed dough Tight dough Too high oven temperature

Crumbliness of crumb	This bread will not slice neatly, and may break into fragments by the pressure of slicer blades	Due to too over or under fermented dough. Too slack dough Too tight dough Excessive fat or too low amount of fat Excessive mineral improvers Low salt content Poor quality of flour Under mixed dough Under baked bread
Lack of colour on crust		1.Too over fermented dough 2.Insufficient sugar 3.Insufficient salt
Too dark crust colour		Excessive sugar in formula Too much diastatic activity in dough Un ripened dough/young dough Too high oven temperature High salt content Too cold temperature Lack of humidity in the oven
Leathery crust		Under fermented dough Used too strong flour without giving enough time mature gluten strands Excessive humidity in oven or proofing chamber Too slack dough
Blisters	Air bubbles on the crust	• 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. • Too slack dough which is not mixed properlyAir pockets present in the dough
Hard or flinty crust	Very hard crust breaks like an egg shell	• Using too strong flour without giving adequate proofing time. • Too tight dough • Too much use of oxidizing improvers
Too thick Crust		• Less amount of oven spring can cause this problem. • Less amount of oven spring can happen due to • Lack of diastatic activity • Lack of sugar & fat in the formula • Poor quality or too strong flour • Over fermented dough • Lack of moisture in the oven
Less volume		• Too tight a dough • Too little or excess yeast. • Under fermentation Crusting of dough Excessive slat or sugar Under proving • Too less amount of salt • Oer or under mixed dough
Excessive volume		• Too slack a dough • Lack of oven temperature • Lack of salt • Too much of yeast Excessive proving Loose moulding

Holes & tunnels	Elongated holes or tunnels in crumb	• 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: • Too soft flour. • 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. • 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. • Too hot oven sole forces the lower part to set faster, but the inner part of dough will still rise and create holes. • 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.
Cores	Hard spots can be felt by touching the bread crumb	• Uneven mixing of dough • 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. • 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.
Seams	Dense moist layer on the outer crumb area, especially near the top crust. This faults happens only to moulded or tinned loaves.	• Too hot or too cold bread mould can arrest the activity of yeast of thearea of the dough which is in contact with the mould. • Weight of dough is more than the capacity of the mould. • Careless handling of a final proved dough • Disturbing the position of bread mould too much in oven.
sourness		• Over fermentation • Excess yeast • Less amount of salt • High room or proving chamber temperature. • “Rope” affected bread