



PASTRY BASICS

PASTRY AND BAKERY KNOWLEDGE

THE TERM PASTRY comes from the word paste, meaning, in this case, a mixture of flour, liquid, and fat. In the bakeshop, pastry refers both to various pastes and doughs and to the many products made from them.

Besides types of pastry: yeast-raised pastry, such as Danish dough and pie doughs the most important types of pastry are short doughs of various types, puff pastry, also known as *pâte feuilletée*, and éclair paste, also known as *pâte à choux*.

SHORT PASTRIES

The best of these doughs are made with pure butter, not shortening, and they generally are enriched with eggs and sugar. The three main doughs in this section

Pâte brisée

which literally means “broken dough,” is mixed using the same method as mealy pie dough—the fat is first combined with the flour. In classical pastry, this is known as *sablage* or the *sanding method*. The fat and flour are mixed until the mixture resembles coarse meal or sand.

Pâte sucrée

means “sugared dough.” It is similar to pate brisée but has a much higher sugar content. The high content of sugar acts as a tenderizer, so the dough is fragile and more difficult to handle than pate brisée. It is used primarily for small items such as tartlets and petits fours.

Pâte sablée

contains even more fat than pâte sucrée and less egg and other moisturizers. Some formulas also contain more sugar as well. It is an extremely tender and crumbly dough that is generally used for cookies but can also be used for small tarts and other pastries.

PUFF PASTRY

PUFF PASTRY IS one of the most remarkable products of the bakeshop. Although it includes no added leavening agent, it can rise to eight times its original thickness when baked.



Puff pastry is a laminated or rolled-in dough, like Danish and croissant doughs. This means it is made up of many layers of fat sandwiched between layers of dough. Unlike Danish dough, however, puff pastry contains no yeast. Steam, created when the moisture in the dough is heated, is responsible for the spectacular rising power of puff pastry.

Because puff pastry or puff dough consists of over 1,000 layers, many more than in Danish dough, the rolling-in procedure requires a great deal of time and care.

PUFF PASTRY



Butter is the preferred fat for rolling in because of its flavor and melt-in-the-mouth quality. Special puff pastry shortening is also available. This shortening is easier to work because it is not as hard when refrigerated and doesn't soften and melt at warm temperatures as easily as butter does. It is also less expensive than butter. However, it can be unpleasant to eat because it tends to congeal and coat the inside of the mouth.

The quantity of rolled-in fat may vary from 50 to 100% of the weight of the flour, or 8 ounces to 1 pound of fat per pound of flour. If the lower quantity of fat is used, the dough should be left slightly thicker when rolled out. Puff pastry that is low in fat will not rise as high and may rise unevenly. This is because there is less fat between the dough layers, so the layers are more likely to stick together.

PROCEDURE: Making Puff Pastry Dough

1. Make a well in the mound of flour and add the liquids.



2. Work the ingredients into a dough.



3. Knead the dough until it is smooth. Refrigerate for 30 minutes. Then roll it out into a large rectangle.



4. To prepare the butter, first soften it by beating it with a rolling pin.



5. Square off the butter. Roll it into a smooth rectangle two-thirds the size of the dough rectangle.



6. Place the butter on the dough so it covers the bottom two-thirds of the rectangle.



7. Fold down the top unbuttered third of the dough so it covers half the butter.



8. Fold the bottom third over the center. The butter is now enclosed.



9. To give the dough its first four-fold, roll the dough into a long rectangle. Before rolling, beat the dough lightly, as shown, so that the butter is evenly distributed.



10. Before folding, always brush off excess dusting flour.



- 11.** Fold down the top edge of the dough to the center.



- 12.** Fold up the bottom edge to the center.



- 13.** Fold in half to achieve the finished four-fold.



ALTERNATIVE METHOD: ROLLING-IN PROCEDURE

- 1.** Fold the dough rectangle in thirds, as for making Danish Pastry (p. 193). **2.** Square off the finished three-fold with the rolling pin.



ALTERNATIVE METHOD: ENCLOSING THE BUTTER IN PUFF PASTRY

- 1.** Roll the dough into a blunt cross shape, as shown, leaving the center thicker than the arms of the cross. **3.** Fold the remaining three arms of dough over the center.



- 2.** Place the square of butter in the center. Fold one of the arms of dough over the butter to cover it.



Guidelines for Makeup and Baking of Puff Dough Products

1. The dough should be cool and firm when it is rolled and cut. If it is too soft, layers may stick together at the cuts, preventing proper rising.
2. Using a sharp cutting tool, cut straight down with firm, even cuts.
3. Avoid touching the cut edges with your fingers, or the layers may stick together.
4. For best rising, place units upside down on baking sheets. The reason is, even sharp cutting tools may press the top layers of dough together. Baking upside down puts the stucktogether layers at the bottom.
5. Avoid letting egg wash run down the edges. Egg wash can cause the layers to stick together at the edges.
6. Rest made-up products for 30 minutes or more in a cool place or in the refrigerator before baking. This relaxes the gluten and reduces shrinkage.
7. Trimmings may be used again, although they will not rise as high. Press them together, keeping the layers in the same direction. After rolling them out, give them a three-fold before using.
8. Baking temperatures of 400° to 425°F (200° to 220°C) are best for most puff dough products. Cooler temperatures will not create enough steam in the products to leaven them well. Higher temperatures will set the crust too quickly.
9. Larger products are harder to bake through than the small ones. To avoid underbaked, soggy interiors, start large items at a high temperature and bake until they are well risen. Then turn the temperature down to about 350°F (175°C) and finish baking until crisp.

Puff Pastry Desserts

The following recipes include instructions for simple puff pastry products, including petits fours. If any of your products do not turn out well, consult the troubleshooting guide in the Puff Pastry Faults and Their Causes table.

PUFF PASTRY FAULTS AND THEIR CAUSES	
FAULTS	POSSIBLE CAUSES
Shrinkage during baking	Dough not relaxed before baking
Poor lift or rising	Too little or too much fat used Dough rolled out too thin or given too many turns Oven too hot or too cold
Uneven lift or irregular shapes	Improper rolling-in procedure Uneven distribution of fat before rolling Dough not relaxed before baking Uneven heat in oven
Fat running out during baking (<i>Note: Some fat running out is normal, but it should not be excessive.</i>)	Too much fat used Not enough turns given Oven too cool

Puff Pastry Desserts



Pinwheels

Components

Puff pastry dough
Egg wash
Fruit filling



Patty Shells

Components

Puff pastry dough
Egg wash



Turnovers

Components

Puff pastry dough
Fruit filling
Egg wash
or
Milk or water and granulated sugar



Cream Horns

Components

Puff pastry dough
Granulated sugar
Whipped cream or Pastry Cream
Confectioners' sugar

Puff Pastry Desserts



Napoleons

Components

Puff pastry dough
Pastry Cream
or mixture of pastry cream
and whipped cream
Fondant
Chocolate fondant



Baked Apple Dumplings

Components

Small, tart baking apples
Puff pastry dough
Cake crumbs (optional)
Cinnamon Sugar
Raisins
Egg wash



Fruit Tarts

Components

Puff pastry dough
Egg wash
Pastry Cream
Fruit, as desired
Apricot Glaze or other glaze

CHOUX and ÉCLAIR PASTE



ÉCLAIRS AND CREAM puffs are made from a dough called *éclair paste*, or *choux paste*. The French name *pâte à choux* (pronounced pot a SHOO) means “cabbage paste,” referring to the resemblance of cream puffs to little cabbages.

Unlike puff pastry, éclair paste is extremely easy to make. The dough itself can be prepared in just a few minutes. This is fortunate, because for best baking results the dough should not be prepared more than 1 hour ahead of time.

CHOUX AND ÉCLAIR PASTE



Éclair Paste or Pâte à Choux

Ingredients	U.S.		Metric	%
Water, milk, or half water, half milk	1 lb		500 g	133
Butter or regular shortening	8	oz	250 g	67
Salt	0.18 oz (1 tsp)		5 g	1.5
Bread flour	12	oz	375 g	100
Eggs	1 lb	4 oz	625 g	167
<i>Total weight:</i>	<i>3 lb</i>	<i>8 oz</i>	<i>1755 g</i>	<i>468%</i>

Note If a sweeter product is desired, add ½ oz (15 g) sugar in step 1.

■ Procedure

1. Combine the liquid, butter, and salt in a heavy saucepan or kettle. Bring the mixture to a full, rolling boil.
2. Remove the pan from the heat and add the flour all at once. Stir quickly.
3. Return the pan to moderate heat and stir vigorously until the dough forms a ball and pulls away from the sides of the pan.
4. Transfer the dough to the bowl of a mixer. If you wish to mix it by hand, leave it in the saucepan.
5. With the paddle attachment, mix at low speed until the dough has cooled slightly. It should be about 140°F (60°C), which is still very warm, but not too hot to touch.
6. At medium speed, beat in the eggs a little at a time. Add no more than a quarter of the eggs at once, and wait until they are completely absorbed before adding more. When all the eggs are absorbed, the paste is ready to use.

ÉCLAIR PASTE

The exact procedure for making éclair paste is detailed in the formula that follows. In general, the method consists of these steps:

1. Bring the liquid, fat, salt, and sugar (if used) to a boil. The liquid must be boiling rapidly so the fat is dispersed in the liquid, not just floating on top. If this is not done, the fat will not be as well incorporated into the paste, and some of it may run out during baking.
2. Add the flour all at once and stir until the paste forms a ball and pulls away from the sides of the pan. It should leave a thin film on the bottom of the pan (a).
3. Remove the paste from the heat and let it cool to 140°F (60°C) (b). Beat or mix the paste so it cools evenly. If the paste is not cooled slightly, it will cook the eggs when they are added.
4. Beat in the eggs a little at a time (c). Completely mix in each addition of eggs before adding more. If the eggs are added too quickly, it will be difficult to get a smooth batter. When the paste is smooth and moist but stiff enough to hold its shape (d), it is ready to use.



ÉCLAIR PASTE

- Éclair paste must be firm enough to hold its shape when piped from a pastry bag. You may occasionally find a formula that produces too slack a dough. Correct such a formula by reducing the water or milk slightly. Alternatively, stop adding eggs when the paste arrives at the proper texture. Take care, though, as éclair paste should not be too dry. It should look smooth and moist, not dry and rough. Paste that is too dry does not puff up well and is thick and heavy.
- Éclair paste for cream puffs and *éclairs* is normally piped onto parchment-lined pans. It can also be piped onto greased pans, although this method is not used as often.
- Proper baking temperatures are important. Start at a high temperature (425°F/220°C) for the first 15 minutes to develop steam. Then reduce the heat to 375°F (190°C) to finish baking and set the structure. The products must be firm and dry before being removed from the oven. If they are removed too soon or cooled too quickly, they may collapse. Some bakers like to leave them in a turned-off oven with the door ajar. However, if the oven must be heated again for other products, this may not be the best idea. It may be better to bake the products thoroughly, remove them carefully from the oven, and let them cool slowly in a warm place.

ÉCLAIR PASTE PRODUCTS



Cream Puffs

Components

Éclair paste

Filling of choice

Confectioners' sugar



Éclairs

Components

Éclair paste

Pastry Cream

Chocolate fondant



Paris-Brest

Components

Éclair paste

Sliced or chopped almonds

Filling of choice

Choux Petits Fours



Choux Petits Fours, left to right: Paris-Brest, Mini Éclairs, Pralines, Mini Cream Puffs, Choux Florentines

Choux Petits Fours

STRUDEL AND PHYLLO

- Pastries made from strudel or phyllo doughs are even flakier than puff pastries. Unlike puff pastries, these desserts start out with paper-thin layers of dough that are brushed with fat and then stacked or rolled up to make many layered creations.
- Strudel is a Hungarian pastry that begins as a soft dough made of strong flour, eggs and water. After the dough is mixed well to develop the gluten, it is stretched by hand into a very thin, transparent sheet. This is a skilled operation that takes practice to do well.
- Phyllo (pronounced “fee-lo” and sometimes spelled filo or fillo) is a Greek version of this type of paper-thin dough. Although not exactly the same as strudel dough, it is interchangeable with strudel dough for most of our purposes.



STRUDEL DOUGH RECIPE

STRUDEL DOUGH

Yield: enough for 4 sheets, each about 3 × 4 ft (1 × 1.2 m)

Ingredients	U.S.	Metric	%	PROCEDURE
Bread flour	2 lb	900 g	100	MIXING 1. Mix all ingredients into a smooth dough. To develop the gluten well, mix at moderate speed for about 10 minutes. The dough will be very soft. 2. Divide the dough into 4 equal parts. Flatten each piece into a rectangle. Place the 4 pieces of dough on an oiled sheet pan. Oil the top of the dough lightly and cover it with plastic film. 3. Let the dough rest at least 1 hour at room temperature, or longer in the retarder.
Water	1 lb 2 oz	500 g	56	
Salt	0.5 oz	15 g	1.5	
Eggs	5 oz (3 eggs)	140 g (3 eggs)	15	
Vegetable oil	2 oz	55 g	6	
Total weight:	3 lb 9 oz	1610 g	178 %	

STRUDEL DOUGH METHOD

Commercially made phyllo is so thin and delicate it must be handled very carefully. Two guidelines are important:

FIRST, thaw frozen phyllo completely *before opening the plastic package*. Do not try to handle frozen dough; it will break.

SECOND, after opening the package and unfolding or unrolling the sheets of dough, keep the stack of leaves covered to prevent drying. Remove and work with one sheet at a time, keeping the rest covered. (Note: Package instructions often say to cover the dough with a damp cloth, but this is risky because the sheets stick together if the dough becomes too damp.)

The modern trend to lighter pastries has inspired chefs to use baked layers of phyllo in place of puff pastry to make desserts such as napoleons.

STRUDEL DOUGH METHOD

1. Strudel dough stretches best if it is slightly warm, so place the dough in a warm place. Allow at least 1 to 2 hours if the dough has been refrigerated.
2. Cover a large table (at least 3 × 4 ft/1 × 1.2 m) with a cloth. Dust the cloth well with flour and rub it in lightly.
3. Using plenty of dusting flour, place one piece of dough in the center of the table and, with a rolling pin, roll it out roughly into an oval or rectangle. This step is meant only to start the stretching, so don't try to roll the dough too thin.
4. With the back of the hands up, slide your hands under the dough. Carefully begin stretching the dough from the center outward, using the backs of your hands, not your fingers, to avoid poking holes in the dough. Work your way around the table, gently stretching the dough little by little in all directions. Concentrate on the thickest parts of the dough, to make it of even thickness all around.
5. Keep stretching the dough until it is paper-thin and nearly transparent. If small holes appear, you can ignore them; if large holes appear, patch them with pieces of dough from the edges after stretching is complete. Each piece of dough should make a sheet about 3 × 4 ft (1 × 1.2 m).



6. With scissors, cut off the heavy rim of dough around the edge and discard it.
7. Let the dough dry about 10 minutes, then fill it and roll it according to the Procedure for Filling, Rolling, and Baking Strudel.

Procedure for Stretching Strudel Dough

1. Strudel dough stretches best if it is slightly warm, so place the dough in a warm place. Allow at least 1 to 2 hours if the dough has been refrigerated.
2. Cover a large table (at least 3×5 ft/ 1×1.6 m) with a cloth. Dust the cloth well with flour and rub it in lightly.
3. Using plenty of dusting flour, place one piece of dough in the center of the table and, with a rolling pin, roll it out roughly into an oval or rectangle. This step is meant only to start the stretching, so don't try to roll the dough too thin.
4. Put your hands under the dough with the backs of the hands up. Carefully begin stretching the dough from the center outward, using the backs of your hands, not your fingers, to avoid poking holes in the dough. Work your way around the table, gently stretching the dough little by little in all directions. Concentrate on the thickest parts of the dough, so that it is of even thickness all around.
5. Keep stretching the dough until it is paper-thin and nearly transparent. If small holes appear, you can ignore them; if large holes appear, patch them with pieces of dough from the edges after stretching is complete. Each piece of dough should make a sheet about 3×5 ft (1×1.6 m).
6. With scissors, cut off the heavy rim of dough all around the edge and discard it.
7. Let the dough dry for about 10 minutes, then fill it and roll it according to the following procedure.

Strudel/ Phyllo Product



Apple Filling for Strudel

Yield: 4 lb (2000 g)

Ingredients	U.S.		Apples at 100%	
			Metric	%
Apples, peeled and cored (see note)	3 lb		1500 g	100
Lemon juice	1	oz	30 g	2
Sugar	8	oz	250 g	17
Sugar	8	oz	250 g	17
Raisins	4	oz	125 g	8
Walnuts, chopped	4	oz	125 g	8
Cake crumbs	2	oz	60 g	4
Lemon zest, grated	0.25	oz	8 g	0.5
Cinnamon	0.25	oz	8 g	0.5

■ Procedure

1. Cut the apples into thin slices or small dice. Mix with the lemon juice and the first quantity of sugar. Let stand for 30 minutes while preparing the pastry.
2. Drain the apples well. The sugar will have drawn out juice that would otherwise run out of the strudel and make the bottom soggy.
3. Mix the apples with the remaining ingredients.

Note Canned sliced apples may be used. Weigh after draining. Omit the lemon juice and the first quantity of sugar. Omit steps 1 and 2 in the procedure.

BAKED MERINGUES



TO REFER TO *baked meringues* as pastries may seem odd, as the term *pastry* usually refers to desserts made from flour goods such as puff pastry, short dough, or éclair paste. However, meringue that is bagged out into shapes and baked until crisp is used in many of the same ways as flour pastry. It can be filled or iced with many kinds of creams, icings, and fruits to make an interesting variety of attractive desserts.

ALMOND MERINGUES

Ingredients	U.S.	Metric	Egg whites at 100% %
Egg whites	4 oz	120 g	100
Fine granulated sugar	4 oz	120 g	100
Powdered almonds	4 oz	120 g	100
Total weight	12 oz	360 g	300%

PROCEDURE

1. Prepare baking sheets by lining them with parchment paper. Draw circles of the desired size on the paper, using cake pans or other round objects as guides. Turn the sheets over so the circles are on the bottom but visible through the paper.
2. Whip the egg whites to soft peaks.
3. Add the sugar and continue whipping until firm and glossy.
4. Fold in the powdered almonds.
5. Using a pastry bag with a 1/2-in. (12-mm) plain tube, fill in the circles on the baking sheets by making spirals starting in the center of each circle, as on page 345. Fill each circle with a layer of meringue about 1/2 in. (12 mm) thick.
6. Bake at 325°F (160°C) until firm and dry, about 25 minutes.

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At vero eos et accusamus et iusto odio dignissimos ducimus, qui blanditiis praesentium voluptatum deleniti atque corrupti, quos dolores et quas molestias excepturi sint

