## Chocolate Tempering list

The aim of this list is to show that tempering a new chocolate is not difficult as you may imagine. With the hope that more people eat chocolates, and that more (all, if possible) chocolates will be Fair-Traded. Please note that the list is not completed yet and there are supplementary explanations on the next page.

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75 D · · · DOMORI Aprimac 50 \rightarrow 26.0 \rightarrow 30.0
70 K · · · KAOKA Rio Arriba \rightarrow 26.5 \rightarrow 30.0 \sim 30.5
66 V · · · Valrhona Alpaco 27.0 → 30 ~ 30.5
64 V · · · Valrhona Manjari 27. 0 → 30 ~ 30. 5
          (64V + white 35 K, 5:1, \rightarrow 26.0 \rightarrow
          (64V + white 34 R, 2:1, 50 \rightarrow 25.0 \rightarrow 29.5 \sim 29.8)
63 V · · · Valrhona Illanka 55 → 27.0 → 30.5
61 R · · · El Rey Mijao 50 → 27. 0 → 30. 5
56 V · · · Valrhona Caraque 27. 0 → 29 ~ 30. 0
55 V · · · Valrhona Equatoriale Noire 55 \rightarrow 26.0(50 \rightarrow 26.5) \rightarrow 29.5 \sim 30.5
55 K · · · KAOKA L'Amitié 55(50△) → 26.0 → 30.0
50 D··· DOMORI Arriba Milk 55→26.0→29.3
45 P··· Pralus Couverture Mélissa 50 → 26.0 → 30
41 R · · · El Rey Caoba 55 → 26. 0 → 29
40 V··· Valrhona Jivara Lactée 26.5? → 30 ~ 30.5
37 K · · · KAOKA Bonao 45? → 27. 0 → 29. 5
35 V··· Valrhona Equatoriale Lactée 50 → 26.0 →
32 K · · · KAOKA Mikolo 45.0 \rightarrow 26.0(26.5 \times) \rightarrow 30.0
                               50 → 26. 0 →
White36 D · · · DOMORI Bianco 26.5 \rightarrow 29.5 \sim 30.5
White35 K · · · KAOKA Ankha 50 → 25.0(~26.5) →
White 34 R · · · El Rey Icoa 47 \rightarrow 26.0 \rightarrow 29
White 34 V · · · Valrhona Opalys 45 \rightarrow 26.0 \rightarrow 30.5 \sim 31
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<sup>\*</sup>Celsius only, sorry!

- \*201701 ~ 02data (Italic, 2016data)
- \*Data based on using 300~500g chocolates, water-bath + water-cool method
- \*Caution, with less chocolates, faster the temperature heats up!
- \*Room temperature:  $18.5 \sim 20.5 ^{\circ}$  (18.5° is better when tempering a small amount of chocolate)
- \*Make sure to check the center, not the bottom of the chocolate, it is also important to stir equally just before checking
- \*Cooling water temperature: I use tap water, of which temperature in winter here is around 15°C. Better to replace water just before each tempering (The water is too warm after one tempering or placed long in a kitchen). If you use some cubes of ice, be careful to check that all are well melted. Even partly cooled too much, chocolates tend to be heavy and dull and need to be melted again.
- \*I used to melt with water-bath of 60°C for all chocolates until 2016, but changed from 2017 to check chocolate temperature. (temporally, black: 55°C, milk: 50°C, white: 45)
- (→Only black chocolates might not melt enough with water-bath of 60°C)
- \*(I think) the temperature-II depends on temperature-I. If I is higher, II needs to be lower, if I is not high enough, II cannot be reached well (It makes small lump of chocolates before reaching II). With such a little delicate nature(not simply depends on the temperature only), the most efficient way I believe now is to check every time with a table-knife.

  e.g.: If you cannot lower the temperature to II, I should be higher (50)
- should be 55°C). If the chocolate is too smooth after II, I could be too high and II should be lower (27.0 should be 26.5, 26.0, even 24.5°C).
- \*Over 60°C (140° F), all chocolates seemed to be damaged, and seemed to contain small air bubbles that cannot be banished.

Melt until smooth (I),

cool until smoothly heavy (II),

warm again until smooth enough to use (III)

\*Checking temperature for new chocolate is to know the temperatures of I, II. Start knife-check from  $27.0^{\circ}$ C, and every  $0.5^{\circ}$ C until small lumps appears. Restart from melting to I and cooling to II, but this time it goes faster, isn't it?!