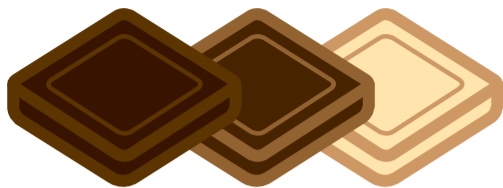


THE SIX POLYMORPHS OF CHOCOLATE



The molecules in cocoa butter can be stacked together in different ways - these are known as 'polymorphs'. Tempering chocolate is required to obtain only form V, the most desirable. This is achieved by allowing the chocolate to cool at room temperature, which leads to some of all the polymorphs except VI forming, then heating gently to just below the melting point of form V, so it is the major form remaining.

FORM & MELTING POINT

DESCRIPTION & PROPERTIES

I

17.3°C

BOTH SOFT AND CRUMBLY WITH NOTICEABLE BLOOMING

Form I is produced by cooling melted chocolate rapidly (e.g. by putting it in the freezer).

II

23.3°C

Form II is produced by cooling melted chocolate at 2°C per minute. Form I crystals also gradually become Form II after a short time of freezing temperature storage.

III

25.5°C

BOTH FIRM, BUT DON'T GIVE A GOOD 'SNAP', AND SHOW SOME BLOOMING

Form III is produced by cooling at 5-10°C. Form II becomes Form III after storage at low temperatures above freezing.

IV

27.3°C

Form IV is produced by allowing melted chocolate to cool at room temperature; Form III also becomes Form IV after storage at room temperature for some time.

V

33.8°C

SHINY, SMOOTH TEXTURE, GOOD 'SNAP', AND MELTS IN THE MOUTH

Formed by tempering chocolate slowly at room temperature. Most desirable!

VI

36.3°C

HARD AND MELTS SLOWLY IN THE MOUTH, SHOWS SOME BLOOMING

Can't be formed from melted chocolate - can only be formed after solid, tempered chocolate has rested for at least 4 months.

INCREASED STABILITY & DENSITY

