How to Tamp

Purpose
Even water distribution through the freshly ground coffee and the filter basket, resulting in an even extraction

Process
Dose directly into the basket (or use a scoop to measure from a collection chamber)
Even out the surface of the coffee (level the surface by using your index finger extended and move in a circular motion (or use the NSEW distribution method*[1]))
Remove the excess grounds (if dosing by sight)
Apply even pressure using a Tamper to the levelled coffee (30psi recommended*[2])
As you lift the tamper twist to 'polish' the surface
Flip your portafilter upside down over your knockbox to remove any loose grounds
Check the surface is level (knock out and repeat until you are happy)
Clean the lugs and the basket edge of any stray coffee grounds

Measures of Success
The water should flow through the puck evenly and not channel
The puck should remain intact when knocked out and break apart gently

Tamping Faults
Tamping faults can lead to an uneven extraction (channelling) or a bitter tasting shot

Remedying Faults
Training | Practice | Using a clicker tamper to gauge pressure required are several ways to remedy tamping faults

FAQ's

*[1] What is the NSEW method?

The NSEW method is where you distribute the coffee in the basket from top to bottom (North to South) then from right to left (East to West).
This ensures there is even distribution of coffee in the basket

*[2] Is there a 'right' pressure to apply?

No, each coffee has its own unique attributes and responds differently to the combination of coarseness, tamp pressure and water pressure
Some coffees need to be ground finer than others, and some tamped more firmly.
The general consensus used to be a 30 lb tamp was required but this is only a recommended pressure to start off with.

Should I tap the portafilter?

Tapping the portafilter or bumping it on the bench or a tamping mat may have an adverse effect on the puck, dislodging the coffee grounds and creating small air pockets promoting channelling (the path of least resistance that the water takes under pressure) or settling the lower layers leaving loose grounds on top