

# Section 4 - The capstone

So you've decided on a fancy case and planned out some comfy switches. But you aren't going to type on the stems of the switches, right?

Keycaps are a major factor in how the keyboard feels, for they are what your fingers press to use the board itself. In addition, the keycap determines the face of a keyboard, so make sure to pick a set that suits your aesthetic preferences.

## Expensive plastics

The first thing you may be shocked at when hunting for a keyset is their price tag. "Over a hundred dollars for bits of plastic? Impossible!", you may say.

However, do keep in mind that although the raw material cost of these plastics is low, they are produced to extreme accuracy with very unusual methods. By the end of the page, you'll have a rough idea of why these keycaps may end up adding quite a bit of cost to your keyboard's price.

## Making a legend

Legends refer to the printed letters and characters on the keycaps. These are printed onto the surface of the keycaps in a variety of methods described below:

### **The cheap-for-good-reason methods**

- Laser-engraved - A laser is used to blast into the keycap, etching the legends into place. Usually has a burnt-out look that is far from photogenic, and is usually tangible upon touch.
- Pad-printed - The legends are printed onto the surface of the keycap. These are also tangible upon touch, and also tend to scrape and fade off from extended use.

### **Enthusiast grade**

- Dye-sublimation, or dye-sub for short - Ink is heat-transferred deep into the plastic, well beyond the depth that can wear off from regular use. These sharp prints are very permanent, and can last decades easily without much issue. Due to the heat involved during printing, this cannot be done on plastics that deform under heat such as ABS. Also, lighter ink can't be printed onto darker base plastic.

- Double-shot - One layer of plastic is cast to form the base of the keycap, and another layer of plastic is injected into it to “form” the legends. This is the community’s top pick when it comes to legend quality, for it creates an infinitely sharp print which can go decades without wearing out. There is no color restriction for this method save for the colors creatable with the plastics themselves.
- Blanks - Who needs legends anyways? High-quality blank keycaps can be a quality choice if going for a minimal look and having no dependency on the legends.

In general, the enthusiast grade options are the ones to put on your custom keyboard. After all, you don’t want to ruin all the hard work you’ve put in on making your ideal board with a subpar facade.

## A material world

There are two main plastics to be aware of when dealing with keycaps.

- ABS is a colorful choice that is used in both cheap options (pad-printing, etc) and premium options (double-shot). Usually tends to deliver a deeper tone in terms of acoustics, and becomes shiny as it wears down from heavy use.
- PBT is a duller choice that is oft used for laser-engraving and dye-sub. More resistant to heat and shining, but is prone to warping and twisting as it cools when it comes out of the cast used to form it.

There are other choices such as POM and PPS, but those will be excluded from this guide for the time being.



## The sculpt

In the custom keyboard realm, keycap profiles usually refers to the physical shape and sculpt of the keycaps. Yes, multiple keycap profiles exist; the major ones are listed below.

- OEM - This is what 99% of the prebuilt mechanical keyboards come with. A tad choppy and tall, usually made of extremely thin plastic to cut costs.
- Cherry - The community choice. Originally designed by Cherry themselves to match their switches and keyboards, they offer a lower profile, more fluid form that makes typing enjoyable. Usually these are formed from very thick plastics.
- SA - A very tall profile, with a “spherical” round top unlike the typical “cylindrical” form which curve from side-to-side. A fairly retro look which is available in both uniform and differing row forms.
- KAT - A similarly spherical style of keycap, but much shorter than the tall SA.
- MT3 - Takes spherical to the extreme with very “deep-dish” keytops.

If you ever find that your typing doesn't seem to work nicely with the keyboard, try giving a different keycap profile a shot. You may be surprised by the difference it makes.



*Image credits: TheBelgian/spamblock*

## The other sculpt

It's possible to go beyond these profiles to an extreme degree. Such is the world of hand-sculpted, hand-painted artisan keycaps, in which each cap is an art piece upon your keyboard. These are usually very high-demand and expensive, and are difficult to obtain. For your very end-game keyboard build, you may wish to crown it with a sculpted keycap of your choice.

## Making it fit

One thing to note is that not all keycap sets come with every single possible key size in existence. This is where the key size units discussed earlier comes into play - make sure that the keyset you are buying includes the key sizes needed to fill the layout of your build.

Now you are ready for the final section.

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