

SelfPack columns with Integrated/Pulled emitters

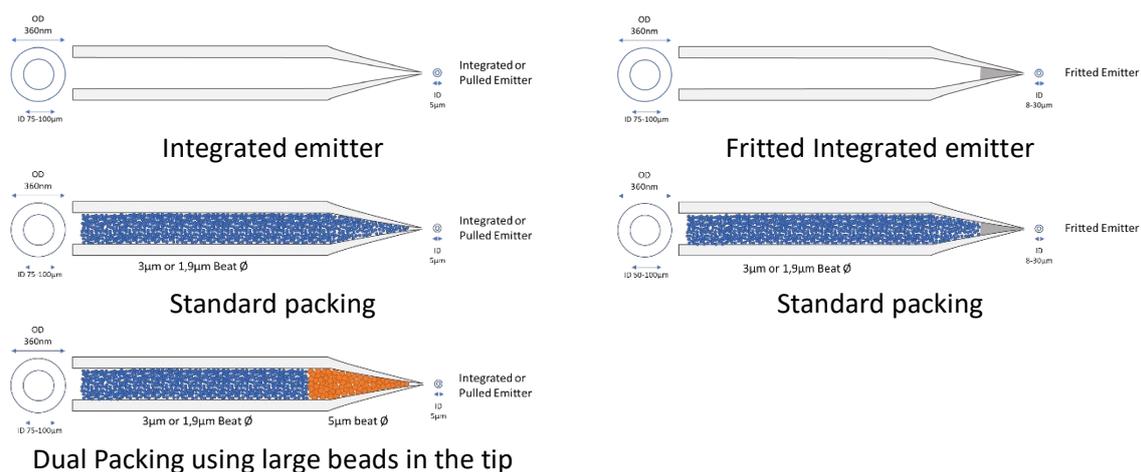
Lately we have received many questions about the availability of Integrated or Pulled emitter SelfPack columns and had to disappoint many of the scientists we supply. Earlier we found a way to supply short emitters, for separated columns and transfer lines. In the last days one of our suppliers has started supplying SelfPack columns with Integrated or Pulled emitters in a version without Frit.

First some nomenclature: Pulled emitters and Integrated emitter columns are different words for the same thing. I have chosen to use Integrated emitter columns for the remainder of this article, just because is a more generic name for the column type. Feel free to disagree...

Emitters of 75-100µm ID with a length of 50cm and a narrow tip are popular columns to be packed with your material of choice. Just as popular are the fritted emitters New Objective market as PicoFrit™ SelfPack columns, the frit provides the benefit of a filter to pack you bed against. At the same time the frit avoids very small resin beads to block the tip either during the packing process or when using the column, making the column more durable. The challenge when writing this blog is that the Fused Silica SelfPack and PicoFrit™ SelfPack have not been available for a while. This is why we are happy to have a found a solution to start supplying the non-fritted SelfPack emitters again.

So now what to do, if you have been using non-fritted integrated emitter columns to pack with your favourite resin, then we can help you right away. If you have been using fritted integrated emitter columns, then you will need to rethink your workflow a little.

The easiest way to create a “frit” is to pack a small amount of larger (5µm) beads with a short Carbon-chain (C4) into the tip. This “frit” will then function in the same way as a regular frit, and due to the short carbon-chain will have very little retention on molecules separated on C18-resins.



A more elaborate way is to properly frit the emitter as described by Leo Wang, Wang Lab, City of Hope Cancer Centre (Duarte (CA), US) in [this](#) protocol. The protocol describes how one can frit an emitter using Kasil. Kasil will block the tip during the curing process, this blockage is opened by dipping the tip into Hydrofluoric acid (HF) for 10 second. The HF will etch the Kasil at the end of the tip and also the Kasil on the outside of the tip. When the packing flow starts flowing, the column packing can proceed.

Apart from the Hydrofluoric acid (HF), MS Wil supplies all materials needed to pack your favourite columns. Please reach out should you have any questions.