Now to Pin holes.
There are numerous reasons behind the occurance of pinholes. knowing these sources will allow you to treat and or remove the root cause from your process.

* Under cooking. If the moulding has not been given sufficient time to fully dissapate the surface voids, they will remain visible - please note - these bubbles do not float their way out of the polymer but disappear through a process of disolving into the polymer. To achieve complete disolution, sufficient energy (time x temperature) must be input into your system. Additional time and/or temperature will assist here.

* Surface Tension - the presence of an excess of mould release will lead to the formation of surface pinholes, and these are quite hard to process out. Reducing the amount to mould release used or rubbing back the release with a scouring pad will assist if this is the cause. Additionally, using a mould enhancer spray will also assist greatly.

* Polymer Grind. If your grind is rich in tails or is a particularly coase, the amount of air trapped between the poly particles at the surface will be larger than those with a good grind and additional cook time/temp will be required to remove them. Additionally, if your grind is particularly low on fine particles (pan and 150um in a sieve analysis) you will experience sigificant pinholes. Work with your powder supplier to look at the distribution of your particle sizes as well as tail removal if this is your issue.

* Rotation - if you have an unusual rotation pattern where there is an early emphasis on one part of the moulding in an attempt to thicken this section, you may be laying up all of your available fines in this area only, therfore creating a condition that the rest of your moulding only observes a powder mix that is poor in fines - I suggest that the early part of your layup rotation is uniform, and that this is changed to thicken up selected areas only after an all over skin has been created.

Changing to a Polymer of higher Melt Index will assist in removing pinholes, however you must ensure that this polymer has the right blend of mechanical properties required for the job prior to doing this.

Additional to all of the above, the application of a slight positive pressure during the mid to late sintering phase will assist in removing pinholes as well as cross sectional voids. This process will also allow you to process to a lower PIAT and thereby reduce your overall cooking and cooling time with optimum conditions being attained. I STRONGLY CAUTION HOWEVER THAT THE USE OF COMPRESSED AIR DIRECTLY INTO YOUR MOULD IS TO BE AVOIDED AS THIS CAN BE VERY DANGEROUS. I would recommed the use of air amplifiers or blowers only as these processes are incapable of generating high pressures. Also products such as Supavent or Technovent may be useful - google or contact Rory Jones - rory@laplastecnica.co.nz for more information.
Lastly, while flaming a moulding works well to provide a surface shine, my experience has been that flaming a surface with either pinholes on or just under the surface will in many cases

cause these pinholes to blister and expand resulting in larger unsightly marking...

I thought I would add some additional comments along with always follow the recommended safety precautions and test parts before commercial use.

On undercooking, make sure that you do not have bubbles throughout the wall of the part. If you have bubbles throughout the part wall, then extra oven time should solve the issue. If there are no bubbles in the wall of the part and only on the surface, longer oven time may help but most likely will not. This also adds excessive cycle time.

You may be dealing with a mold with high porosity, especially if it is an aluminum mold. Steel molds usually have less of an issue but poor welding can exhibit high porosity at the welded joints. Pin holes can be caused by moisture trapped in the porosity of the mold surface. During the heating process, moisture in the porosity of the mold turns to steam and forms many pin holes. Moisture can re-condense back into the mold porosity at cooling and more moisture can be introduced when the part is removed from cooling water dripping from the mold. Also, improper use of water based mold releases can introduce moisture back into the mold surface. The key is to remove the moisture and seal the mold before any molding.

The steps are: run the mold empty through a oven cycle to remove excess moisture and do not use water cooling, only air. Then apply a sealer and run the mold through the oven again with no water cooling. With the mold warm, a mold release can then be applied. Some mold release suppliers claim that you do not need to run the mold through the oven again, but it is a good practice to run the mold empty through the oven cycle for water based mold releases (no water cooling).

Some claim that a good mold release will act as sealer and mold release. I have not had to use a sealer to date, but I do not have molds with excessive porosity.

I have solved excessive pin holes with the above method when all the other solutions mentioned previously did not solve the issue. Good luck and remember to follow all safety precautions and test your parts before commercial use.