In press formation, since the growth of removal burrs is the fastest, the time for die maintenance can be determined by the height of the burrs. Therefore, the precondition is the setting of an appropriate removal clearance, and by looking at the removed product, it is possible to judge to some extent the life of the die.

Sharp corners on the removal shape are likely to cause chipping and burrs appearing faster. Rounding off corners is well known to be a countermeasure against burrs. The life of the dies increases in the order of the material of the punches and dies following SKS → SKD → powdered high speed steel → ultra hard alloy. With the same die material, the life increases if the surface roughness of the punch and die is better, and also there will be a difference depending on lubrication. The life becomes shorter if the manner in which the removal scrap falls is close to a state in which chaff gets clogged. Apart from this, the guide of the die set or the stripper guide also affect die rigidity and the dynamic accuracy of the die.

The life of a die can be either the maintenance life or the overall life. The overall life can be said to be the life after repeated maintenance lives, and depending on the structure of the die, it may also be difficult to judge. In the case of a solid type die, since the plate becomes thin every time re-grinding is carried out, it is possible to judge the life of the die at one glance.

An insert type die is used by grinding only the insert part again and adjusting the level and only the insert part is replaced when the life of the die is reached. Similarly, even when the sub guide, etc., is worn out, only the worn out part is replaced. When this is repeated, it may appear as if the overall life of the die will not be reached for a long time.

The method for judging the overall life of the die in such cases is to see the plates. The points to look for are the looseness of the insertion hole and the deformation of the plate. If there is some deformation or wear out of the insertion hole, the life is over because it will not be possible to maintain the position accuracy of the inserted part. Regarding the deformation of the plate, during each press formation, the die gets elastically deformed although to a small extent. When the die is used for a long time, this deformation remains in the plate. When this condition happens, even if a new insert is used, it will not be possible to produce the number of products as before. The overall life can be judged to have been reached if such a maintenance life after such maintenance cannot support production.

When the life of the plate is considered, when the life of the die is to be made longer, the plate should be made thick and it should be tempered, and if a shorter life is sufficient, although the plate is tempered it is made thin, or else, some change is made such as assembling an insert part in a plate that is not tempered. The same is true of the sub guide as well. When the life is to be made longer, a guide bush is used, and when the production quantity is small, the hole in the plate is used as the hole for the guide post.

Dies are used for manufacturing various quantities from very small quantities to very large quantities. It is very difficult to prepare dies with an appropriate life while maintaining the quality. In particular, since even the cost of preparation will be limited in the case of dies for small quantity production, it becomes more difficult to prepare the dies.