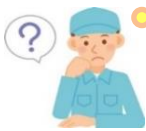


【Consulting】



I am a apprentice machinist and I am drilling center holes with a center drill. A senior machinist told me to "Use type A or type 2 center drill to produce the formed hole", but I am not sure what they are. How many types of Center drills are there?

【Answer】

There are four major types of center drills, "Type A", "Type B", "Type C", and "Type R" (incorporating ISO standards), specified by JIS standards. However, in addition to the above 4 types, the old JIS standard "Type 1" and "Type 2" are still in use, so it's a bit confusing. Please refer to the explanation below for the difference in those types of center drills!



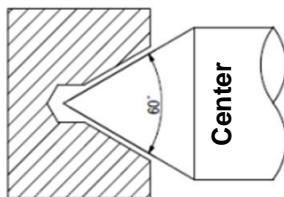
【Explanation】

【Center drills Type A (Type1)】

Center drills of this type are commonly used. It is called "Type A" in JIS and "Type 1" in the old JIS.



It has a pilot drill on the tip followed by the chamfer angle to produce a 60 degree center hole. The chamfer portion is directly connected to the shank.



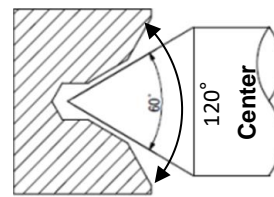
As shown in the left figure, the center is inserted into the center hole drilled by this center drill.

【Center drills Type B (Type2)】

The center drill shown in the picture below is called "Type B" in JIS and "Type 2" in the old JIS.



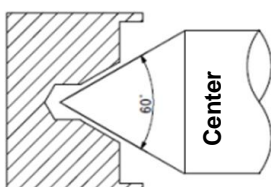
It has a pilot drill on the tip followed by the chamfer angle to produce center holes with two steps angles, 60 and 120 degrees.



The 120 degree chamfer is used to protect the 60 degree center hole from outside impacts and scratches.

【Center drills Type C】

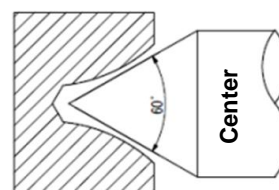
It has a pilot drill on the tip followed by the chamfer angle to produce a 60 degree center hole. And the rest of the drill form can make right-angle sinkhole.



The effect of the sinkhole is the same as a "Type B", but it has a fixed sinkhole depth, which increases the protection effect of the 60 degree center hole.

【Center drills Type R】

This is a center drill that has a curved or radiused line from the pilot drill to the chamfer radius to produce the radiused center hole. Both JIS and old JIS have the "Type R".



Both 60 and 90 degrees center can be inserted into the "Type R" center hole. It also combines the benefits of the Type B.