

Kiln sand or kiln grit on Chinese porcelain

Kiln grit was used in many early kilns when firing ceramics.

The ceramics stood on the grit or sand in temperatures exceeding a thousand degrees (Celsius) without sticking to them.

Firing basics (logic):

If an item has an unglazed bottom it can be placed on grit or a flat bottom and afterwards it can just be lifted off.

If the bottom area is glazed, either the foot rim itself remains unglazed, or a firing support is used, which supports a smaller area or areas of different shapes on the bottom.

If there is no foot rim AND the bottom is glazed, or if both base area and foot rim are glazed, then the item will show traces of any of several firing support types. There will be either stilt marks, support ring traces on an unglazed area, etc.

If the bottom is fully glazed and shows no support marks there is likely an unglazed top rim (with bowls, dishes, etc.). In certain eras, specifically Song dynasty and later some wares were fired upside down.

Simply said, there is always a need for an unglazed area, where an item stands in the kiln.

Glaze and kiln grit:

If the glaze is liquified in the heat of the kiln, and it comes into contact with the kiln bottom during the cooling process it will fuse the item to the bottom.

If the item stood on kiln grit, the glaze will bind the grit to the item, but it still can be removed together with the adhering grit.

The grit is embedded in any glaze that comes into contact with it and cannot be removed.

Glaze and firing mishaps:

If the ceramic clay structure is too weak to support an item's own weight during the firing, the item may change shape or sag, or even collapse. Then, if it comes in contact with a neighbouring item or the saggar, they may be fused together and become unusable.

The same happens if the glaze flows down and comes into contact with a firing support.

If two items are connected by the glaze they either both are unusable, even if they retain their shapes, or one of them must be destructed to salvage the other.

Kiln grit

Kiln grit or sand can be coarse or fine, as fine as the sand on some beaches or river banks. On Chinese ceramics kiln grit was prominent during the late Ming dynasty on export porcelain made in coastal areas in southeast China, particularly on Zhangzhou (aka Swatow) wares. These clearly show the transition from unglazed bottoms fired on kiln grit to glazed bottoms and the use of foot rims. Many items show some glaze running unto the bottom, whereas the embedded grit was stuck to the latter forever. Sometimes a fully glazed bottom had large areas with grit embedded. The technique of glazing the foot rim down to the bottom without running unto the latter, or glazing the bottom without using grit was not properly developed yet.

This type of grit is frequently seen on underglaze blue and red-green porcelain made in some local kilns during the period.

Other kiln wares like those from Jingdezhen, for example, are less prone to show any.

Grit largely disappeared from ceramics made at Jingdezhen during the Qing dynasty; some coarse wares not made for export still show them until about the early/mid 18th century, but it was much less prominent by then.

Some grains of sand can also be found embedded in Qianlong export wares with a flat, unglazed bottom. In these cases a few tiny sand grains were embedded along the the very bottom edge, and 'only' along the edge of the glaze. Otherwise it grit was absent.

However, with Canton export wares show a different, darker and smaller type of grit (rsand), which is frequently found along the glaze edge throughout the Qing dynasty.

Thus we have two types of items with grit, one was almost extinct in the 18th century, on items from Jingdezhen, the other continued to show it until the late Qing dynasty. The reason may be the firing environment in Canton (Guangzhou). The blanks were originally made in JDZ kilns and then transported to Canton for painting and further firing at Guangzhou kiln. The latter is likely the source of the sand on these wares.

Kiln grit and fakes

Despite the above, we cannot judge authenticity of an item based on the presence of grit. Grit is also used on fakes to confuse potential buyers.

Chinese fakes:

Grit is also offered for sale today in China. Guess for what...I have seen perfect Zhangzhou phoenix plates complete with grit. When stroking over the sand with the fingers some of it fell to the ground. That is impossible with a genuine item. Once grit or sand is fused to a ceramic item with glaze it is stuck forever. It is virtually impossible to remove it. In this case it was probably glued on much later. Even given the remote possibility that some of the sand was loose after firing, how would it be possible to be still there after about 400 years?

Japanese imitations of Chinese items:

Some Japanese porcelain items copying Chinese motifs were made to deceive. They prominently show kiln grit along the inner and outer face of the glazed foot rim. Too much to be natural and more than their Chinese counterparts used. Often this is combined with chatter marks that are too regular, too long or too obvious, apparently to simulate age. Too long means here they run from the foot rim to the very center of the item. With antique Chinese ones from the late Ming dynasty (e.g. Kraak wares) these will be visible only a short distance from the foot rim, not to the very center.