

CERAMICS

Cookware

IN THE KITCHEN

GLASS CERAMICS

This material is used for stovetops and some cookware because it can undergo heating and cooling cycles without breaking because it has a low coefficient of thermal expansion (CTE). This means it's very reliable, which is important since kitchen items get a lot of use.



Glass ceramic stovetop

Glass ceramic cookware



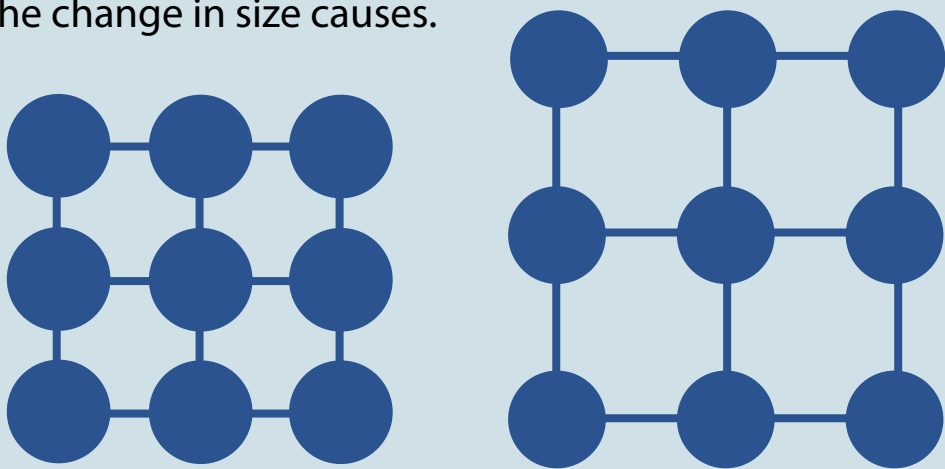
Kitchenware



Your kitchenware can go in the oven because it has a very low coefficient of thermal expansion too

Why is a low coefficient of thermal expansion (CTE) important?

As things are heated and cooled, the amount they expand or contract depends on their CTE. A bigger CTE means they expand and contract more. Ceramics are very brittle, which means they can break easily. Ceramics with a high CTE break often because of the stresses the change in size causes.



Left: object at low temperature. Right: object at higher temperature. Individual molecules have moved away from each other and the overall volume has expanded.

Interested in learning how these are made?

Check out <https://ceramics.org/ceramic-tech-today/glass-science-at-the-holiday-dinner-table-how-corelle-dishes-are-made>