

What is the Optimal Temperature for Baking Polymer Clay to Achieve Maximum Durability?

Research Question

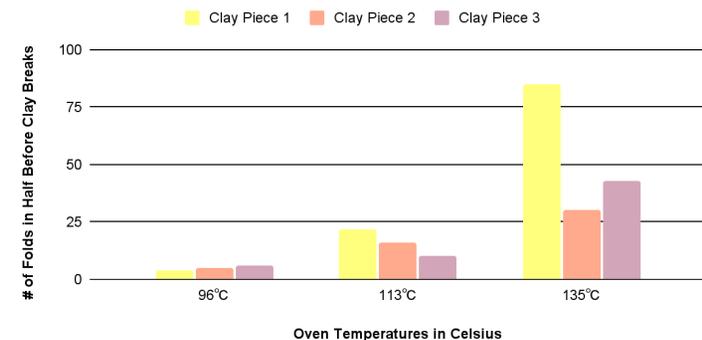
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Data & Results

What is the Optimal Temperature for Baking Polymer Clay to Achieve Maximum Durability?

Oven Temperatures °C	# of Folds in Half Before Clay Breaks			
	Clay Piece 1	Clay Piece 2	Clay Piece 3	Average # of Folds Per Piece
96°C	4	5	6	5
113°C	22	16	10	16
135°C	85	30	43	54

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Methodology

1. Cut clay into 9 pieces. Make sure that there is exactly 1.4 grams of clay for each rectangular piece. Form each piece into a rectangle, 3 cm x 1 cm x 2 mm.
2. Put 3 pieces of clay on a metal tray with parchment paper in the oven for 15 minutes at 96°C.
3. After baking, let cool down for 1 minute.
4. Bend each piece of clay in half while counting each fold until it breaks.
5. Repeat steps 2-4 with oven temperatures at 113°C, then 135°C.

Interpretation & Conclusions

- After testing my experiment, I learned that my hypothesis was correct. The data showed that when bending the clay, it took longer to have the piece break when it was baked at 135 degrees Celsius than 115°C or 96°C causing it to be the most durable.