Salt Crystals in a Model Tile Mural

Scoring guide · one credit per question · review written work against each rubric

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Question 1

Tile P held 84.4 − 79.6 = 4.8 g. Tile F held 83.0 − 82.4 = 0.6 g. Tile P held 4.2 g more water.

Question 2

Choice (2)

The class treats the retained mass as water inside the tile. Tile P retains more water, consistent with more pore space connected to the exposed surface.

Question 3

Water leaves as vapor while the salt remains. The solution becomes more concentrated until it can no longer keep all the salt dissolved, so some salt crystallizes.

Question 4

Choice (2)

Coating R has 3% visible damage, under the 4% limit, and can be removed without tile loss.

Question 5

Ten model cycles do not establish a year of exposure. Measure damage after more cycles that represent the expected exposure, or monitor comparable test tiles after a year. Accept other measurements that address the stated limitation.