

Fire-Resistant Coated Zeolite Gypsum Board FAQ's

1. Does the coated zeolite absorb moisture inside gypsum board?

No. Once coated, the zeolite surface is functionally occupied and does not behave as a desiccant. It does not absorb moisture in a way that affects board strength, sag, or dimensional stability.

2. Will the additive cause issues in high-humidity environments?

No. Gypsum board already contains chemically bound water, and the small percentage of coated mineral does not change humidity performance. The board behaves like standard Type X/C drywall.

3. Does the additive interfere with gypsum slurry processing?

No. The coated mineral behaves like an inert filler. It does not affect slurry viscosity, set time, foaming, or line speed.

4. Does the additive affect paper adhesion or facer bonding?

No. The coated mineral remains within the gypsum core and does not migrate to the facer interface. Paper adhesion remains unchanged.

5. Will the additive impact board weight or density?

Only minimally. Loadings are low, and the coated mineral has similar density to common gypsum fillers. Board weight remains within standard specifications.

6. Does the additive affect mechanical strength (nail pull, flexural strength)?

No. At recommended loadings, mechanical properties remain within normal manufacturing tolerances.

7. Is the additive compatible with existing Type X or Type C formulations?

Yes. It is designed as a drop-in mineral additive and does not require changes to glass fiber, starch, foaming agents, or accelerators.

8. Does the additive interfere with calcination or rehydration chemistry?

No. It is thermally stable and does not react with gypsum during calcination or hydration. The core chemistry remains unchanged.

9. How does the additive improve fire performance?

It reinforces the core under heat by contributing thermal mass, char stability, and improved cohesion during flame exposure. This delays board failure and improves burn-through resistance.

10. Does the additive affect board drying or kiln performance?

No. The coated mineral does not retain free water and does not alter drying curves. Kiln profiles remain unchanged.

11. Is the additive compatible with lightweight gypsum formulations?

Yes. It integrates cleanly with lightweight foaming systems and does not collapse bubbles or interfere with density-reduction strategies.

12. Does the additive introduce any corrosion, odor, or emissions concerns?

No. The coated mineral is non-volatile, non-reactive, and does not release corrosive species. It is safe for manufacturing equipment and indoor air quality.

Fire-Performance-Focused FAQs

13. Does the additive change the ignition point of gypsum board?

No. Gypsum is non-combustible, and the additive does not introduce combustible components. Ignition characteristics remain unchanged.

14. Does the additive improve time-to-failure in fire testing?

Yes. The coated mineral improves core cohesion under heat, delaying structural breakdown and extending time-to-failure in standardized fire tests.

15. Does the additive reduce flame spread?

Yes. It contributes to char stability and reduces heat transfer, which can lower flame spread values.

16. Does the additive reduce smoke generation?

Yes. The coated mineral promotes cleaner thermal behavior and reduces smoke-producing decomposition products.

17. Does the additive help prevent board collapse during fire exposure?

Yes. It reinforces the core as gypsum dehydrates, reducing cracking, spalling, and early collapse.

18. Is the additive compatible with glass fiber reinforcement?

Yes. It does not interfere with glass fibers and supports their role in maintaining core integrity during fire exposure.

19. Does the additive affect gypsum dehydration under fire?

It does not change the chemistry of dehydration, but it slows heat transfer and reinforces the matrix, delaying failure.

20. Does the additive help at screw lines and joints?

Yes. It improves cohesion around fasteners and seams, helping resist early drop-off during fire exposure.

21. Does the additive support ASTM E119 and E84 performance?

Yes. It enhances performance in both tests by improving burn-through resistance, char stability, and smoke behavior.

22. Does the additive introduce halogens, metals, or restricted substances?

No. It is free of halogens, heavy metals, and globally restricted chemistries.

23. Does the additive affect thermal conductivity?

Only beneficially. It adds thermal mass and contributes to heat shielding without increasing thermal conductivity in a negative way.

24. Is the additive stable during board drying and high-temperature exposure?

Yes. It is thermally stable through calcination, drying, and fire exposure. It does not decompose, volatilize, or release corrosive species.