SENSEMASTER LTD
Sensing, Heating & Anti-static Solutions

Sensemaster Ltd.
Unit 1 Severn Bridge Ind Est.
Caldicot, Monmouthshire. NP26 5PW

Watlow ULTRAMIC heaters, being constructed of aluminum nitride (AlN), possess inherent resistance to vibration due to their robust construction and excellent geometric stability. This stability ensures consistent thermal contact during heating cycles, even in environments with vibration.

Material:

The use of aluminum nitride (AlN) provides high thermal conductivity and mechanical strength, making ULTRAMIC heaters durable and capable of withstanding vibrations.

Geometric Stability:

The heater's design is engineered for consistent part-to-part thermal contact, even under vibration, ensuring efficient and reliable heat transfer.

Thermal Management:

The heater's design allows for ultra-fast ramp rates, potentially exceeding 150°C (270°F) per second, depending on the application and process parameters, which contributes to the overall system's resilience to vibration.

Mounting Considerations:

When mounting ULTRAMIC heaters, attention should be paid to factors like mating part materials, flatness, surface finish, and coefficient of thermal expansion to minimize stress and ensure optimal performance in vibrating environments.

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See Sensemaster web Information on Mounting Instructions:

https://sensemaster.co.uk/wp-content/uploads/2024/02/ULTRAMIC-mounting-manual.pdf

Adhesive Selection:

When using adhesives for mounting, it's crucial to choose a high-temperature, electrically insulating adhesive that can withstand the specific application's temperature and vibration levels.

In essence, the ULTRAMIC heater's robust construction, excellent geometric stability, and appropriate mounting practices contribute to its resistance to vibration and ensure reliable performance in challenging applications.