FACTORS AFFECTING: COLD WEATHER APPLICATION OF STUCCO

Imasco Minerals Inc. would like to further clarify the issue related to the minimum curing temperature of cement plaster in cold weather. Most applicators know that a number of precautions should be taken when applying cement stucco during the cold weather season. The minimum temperature target for the first 48 hours is 4°C and it stems from recommendations given in relevant cement plaster publications.

While the NBC, BC and Alberta Building codes indicate that the “stucco shall be maintained at a temperature of not less than 10°C during application, and for not less than 48 hours afterwards, the Walls and Ceilings and the ACI Guide to Portland Cement-Based Plaster indicate that the “plaster placed before the ambient temperature is below 4°C should be sheltered and heated to ensure that the plaster does not freeze and hydration of the cement continues”.

THE IMASCO RECOMMENDATION IS IN LINE WITH THE LATTER 4°C REFERENCE, WITH THE FOLLOWING ADDED SAFETY MEASURES:

- The basecoat should be applied above 4°C.
- Use insulated tarps, additional heating and air circulation as required.
- Maintain the temperature above 4°C for 48 total hours.
- During the curing period, the temperature can drop temporarily, and for short periods of time, to not less than 2°C, provided corrective actions are taken to ensure a total time of 48 hours above 4°C is accumulated before allowing the temperature to drop below 4°C.

The minimum temperature limit shall be 4°C and not 2°C to allow for a bigger safety margin. If a contractor targets a minimum 4°C, due to natural temperature gradients in the wall, there will possibly be a few wall areas with temperatures below this value. If the contractor targets a 2°C instead, there will be wall areas with temperatures below 2°C, and at Imasco we want to prevent this from happening. Feel free to use this information to write instructions to the contractors.

If further information is required please contact your IMASCO representative.

Contributed by:
Imasco Minerals’ Quality Assurance Department