PLAINTIFF'S EXHIBIT

GP-504

Chapter IV

Factors Affecting Hose Pressure

Using a plaster especially formulated for machine application and maintaining proper mortar consistency are necessary to keep hose pressure at a minimum, but there are also several other important factors.

1. Hose length - Pressure varies nearly directly with length of hose used. A pump (cylinder or Moyno) will develop approximately twice as much pressure with a 60' hose as it will with 30' of the same hose.

2. Hose size - Diameter of hose is definitely a factor. If pressure for 60' of 2" hose is 90 psi, pressure required for 60' of 1½" hose would be about 165 psi.

3. Effect of height - In addition to pressure developed with an length of hose, about one-half pound per sq. inch must be added for every foot the plaster is elevated. For example, if the machine is on the ground and the hose is run up to second floor, which is 30' above ground, there will be an extra 15 psi hose pressure..

4. Proportion of Aggregate - A rich mix (2 to 1) will usually result in more pressure than a leaner mix (3 to 1). The richer mix will usually have to be slightly thinner than the lean one in order to get same capacity from the machine.

5. Mortars containing vermiculite aggregate normally pump with considerably less pressure than those containing either perlite or sand.

Remember, high hose pressure results in lower capacity and more machine wear. Bestwall gun plasters are formulated to pump with as low pressure as possible and at the same time work good under the tools after being sprayed on the wall or ceiling.

Spraying Acoustical Plaster

Bestwall Light Acoustical plaster was formulated especially for machine application. It works well in all type machines. Hose pressure is not normally a problem with this type plaster as it pumps easily with a low pressure.

The Nozzle

The nozzle of all plaster machines are basically the same. The mortar goes through an orifice, most have several interchangeable orifices varying in diameter from 1/4" to 5/8". Compressed air is fed to the nozzle. The amount of air, consistency and type of mix, volume of mix and size of orifice determine the spray pattern. The nozzle operates by emitting a globule of mortar, then air, then mortar. Low frequency of this cycle results in large globules of mortar while high frequency results in very small globules.

To lower frequency:
(1) Use lower air pressure
(2) Use larger orifice
(3) If air stem is adjustable, use greater distance from air stem to orifice.

To increase frequency, resulting in finer spray pattern, reverse above procedure.

Chapter IV

PLASTERING MACHINES

What To Do When Trouble Occurs With Machine Application

Trouble	Cause or Remedy
Plaster volume is too low	Too much hose being used or pump worn
Nozzle clogged with lumps	Buildup of fibers, set plaster or foreign matters.
Plaster rebounds from wall in operator's face	Lower air pressure, If spray pattern is lost use larger orfice.
Hose pressure too high	Mix too stiff, hose too long or small diameter, fittings clogged or aggregate being used requires too high pressure to pump.
Plaster comes out in stream when browning	Increase air pressure. If this does not remedy trouble, use smaller orifice, or use thinner consistency mortar.
Nozzle spray too narrow	The air pressure is too low or orifice too large for plaster volume.
Aggregate tends to separate out	Using too much aggregate. Happens more frequently when using sand aggregate.
Plaster slumps on wall	Usually due either to too thin a mix or too much aggregate.

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