PLASTERING AND DRY LINING

Building Construction III

Spring 2012

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Lecture 6

Procedure for plastering

- Procedure for the application of plaster may vary depending on the type and condition of the background.
- The following is a general method which is applicable to most of the wall surfaces:
  - Clean the surface by brush and if necessary use clean water free from salts and chemicals
  - Moist the background by spraying clean water and apply cement/ sand slurry spatter-dash

- Establish plaster dots about 10*10 cm size on the surface of the wall . Dots are plaster mortar set leveled and plumbed down to produce level plaster. These dots are used as reference points in aligning the plaster work
- Apply the first coat of plaster by pressing hard against the wall surface
- Roughen the undercoat surface to provide key for the finishing coat
- Cure undercoat
- After the undercoat is sufficiently dry apply finishing coat. Level off the finishing coat by straight edge using plaster dots as reference points.

Problems arising in plastering

Some of the problems which may a rise after the application of plastering are given below:

1. Cracking

There are various reasons of cracks appearing on the plaster surfaces.

- It can be happened due to the movement of the background or movement of the rendering or plastering due to shrinkage,

In the case of rendering the use of cement rich mortars are liable to cracking in hot weather due to rapid evaporation of water.

Excessive trowelling of the surface increases the crack formation.

By proper curing this type of cracks can be reduced to minimum.

- Mortar mixes should not be made stronger than the background and finishing coat should not be stronger than the undercoat.

- Poor workmanship can be the reason of cracking. By correct mixing and proportioning of the plaster or render mixes this problem can be overcome.
- Background should be completely dry before the undercoats are applied. Similarly each coat of plaster to be applied after the previous coat is dry.
- Plastering work to be protected against the strong drying wind in hot weather. This cause rapid evaporation of water from the plaster resulting irregular cracks on the surface

- Any discontinuity on the background surface may be the reason of cracking due to different shrinkage values. This can be prevented by fixing metal lath or wire mesh across the joint
- Application of too thick coat may sag and cause cracking. Instead of single thick coat the application of two coats is recommended.

2. Bond failure

The bond between the plaster and the background can be lost causing flaking and peeling of the finish. The main reason of bond failure are as follows:

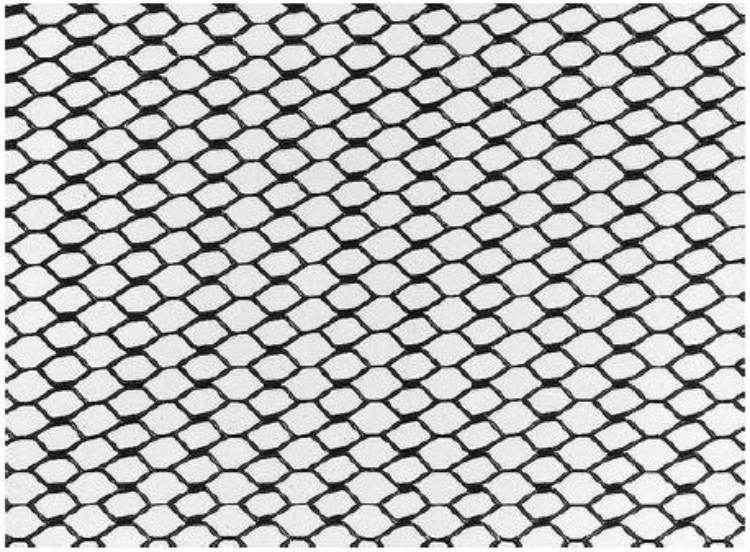
- Background surface is too smooth. Additional treatment on the surface is required to establish the necessary bond between the background and the plaster such as hacking the surface or applying bonding agent.

- Background has not been cleaned properly before the application of plaster. Any remaining dust or salt will cause the lose of adhesion.
- Penetration of moisture through the background will loose the bond between the background and the plaster. The only protection is the prevention of moisture penetration.
- Porosity and excessive suction of background will prevent the bonding of the plaster. The solution is application of special bonding agents

3. Hair cracks (crazing)

Formation of fine irregular hair cracks on the surface of the rendering is known as crazing. Main reasons of the formation of crazing is as follows:

- Excessive suction by the undercoat
- Application of render mortar too rich in cement content
- Used of re-tempered mortar after it has set
- Use of excessive lime in gypsum plaster finishing coats
- Use of defective materials



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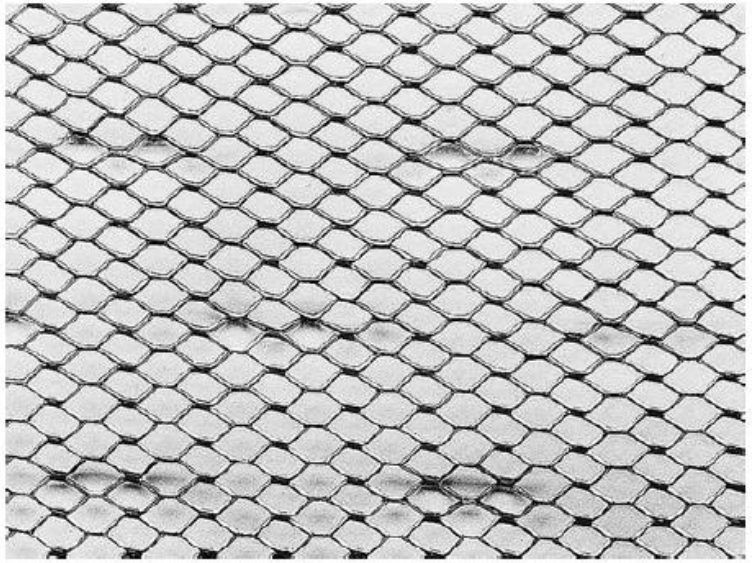

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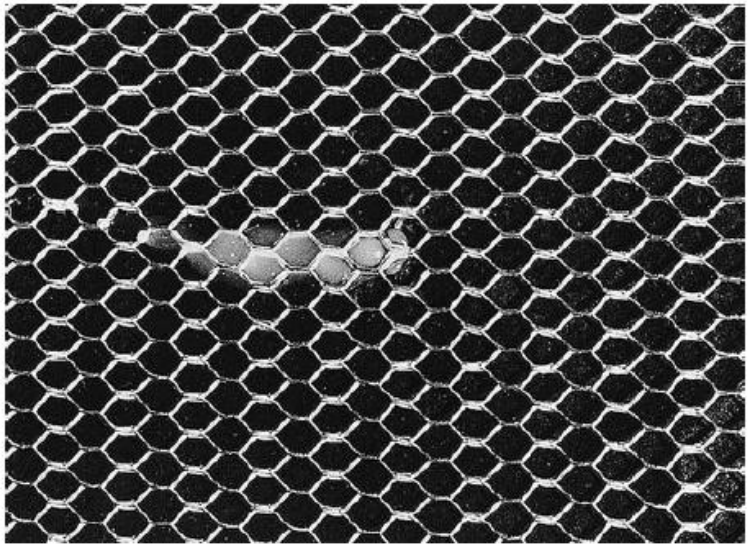

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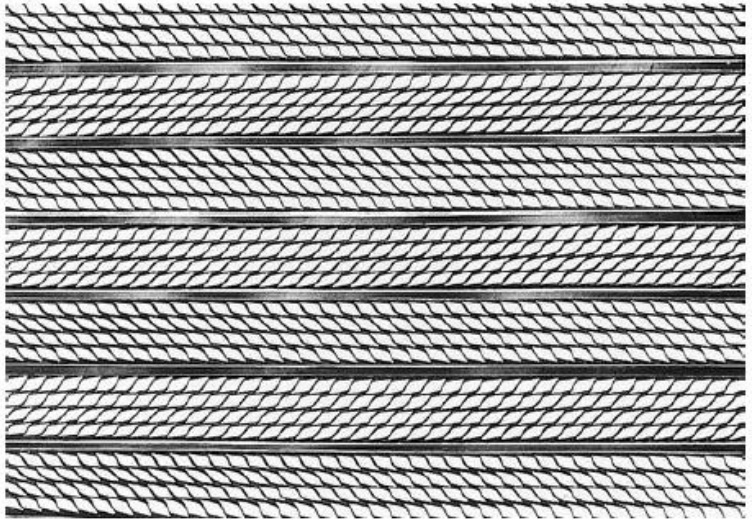

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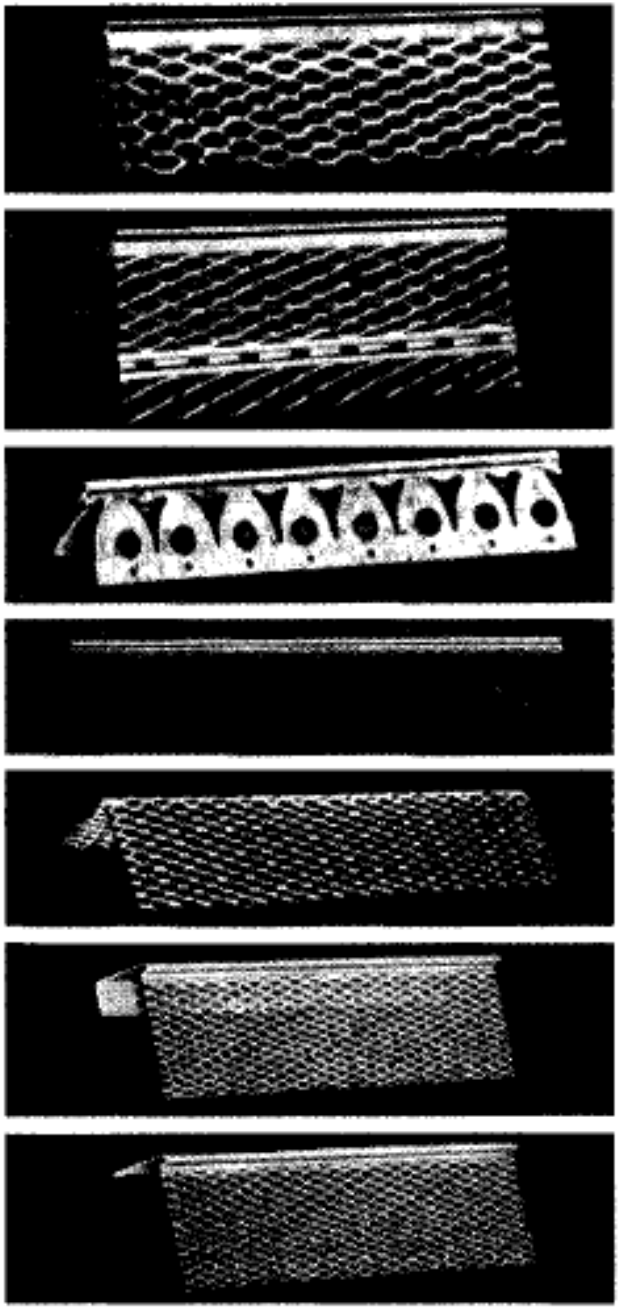
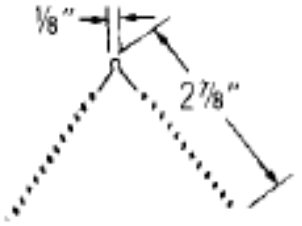
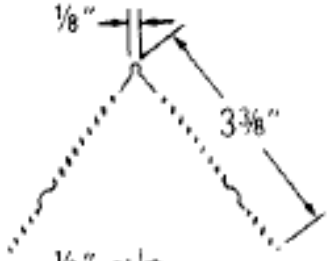


1-A



X-2



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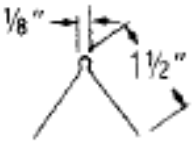

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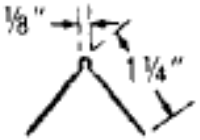
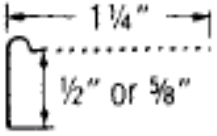
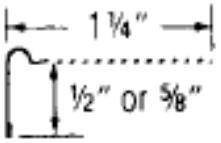


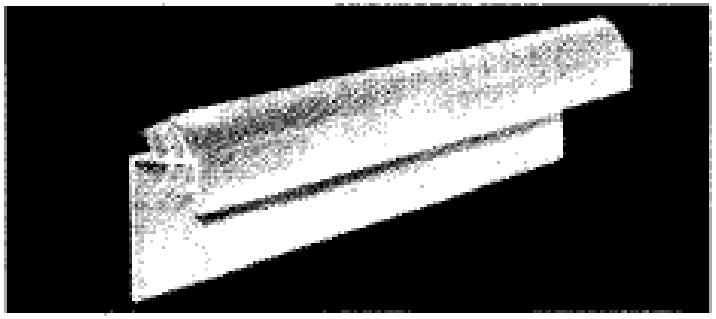
Cornerite

701-A
801-A

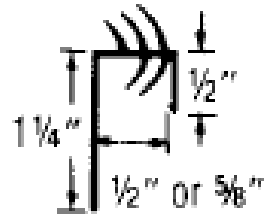


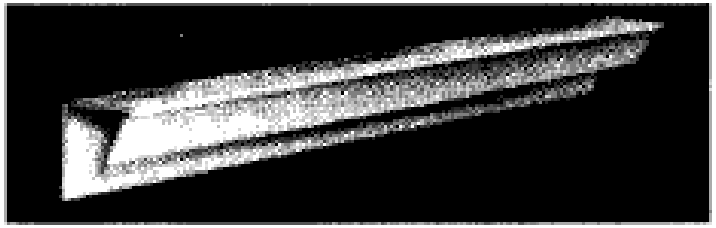
701-B
801-B





USG P-1
Vinyl Trim





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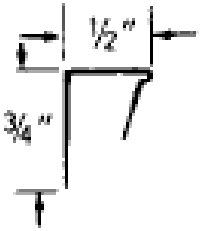
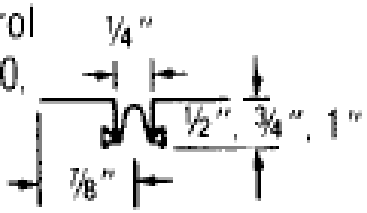
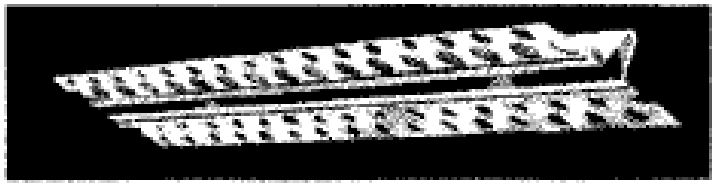
Vinyl Trim

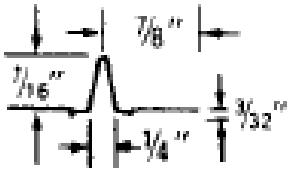


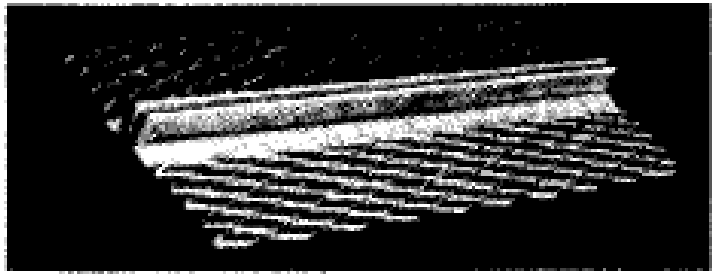
USG Control
Joints #50,
75, & 100



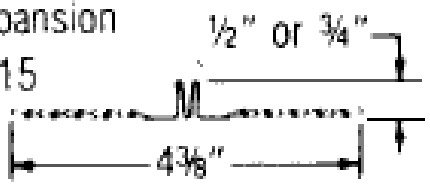


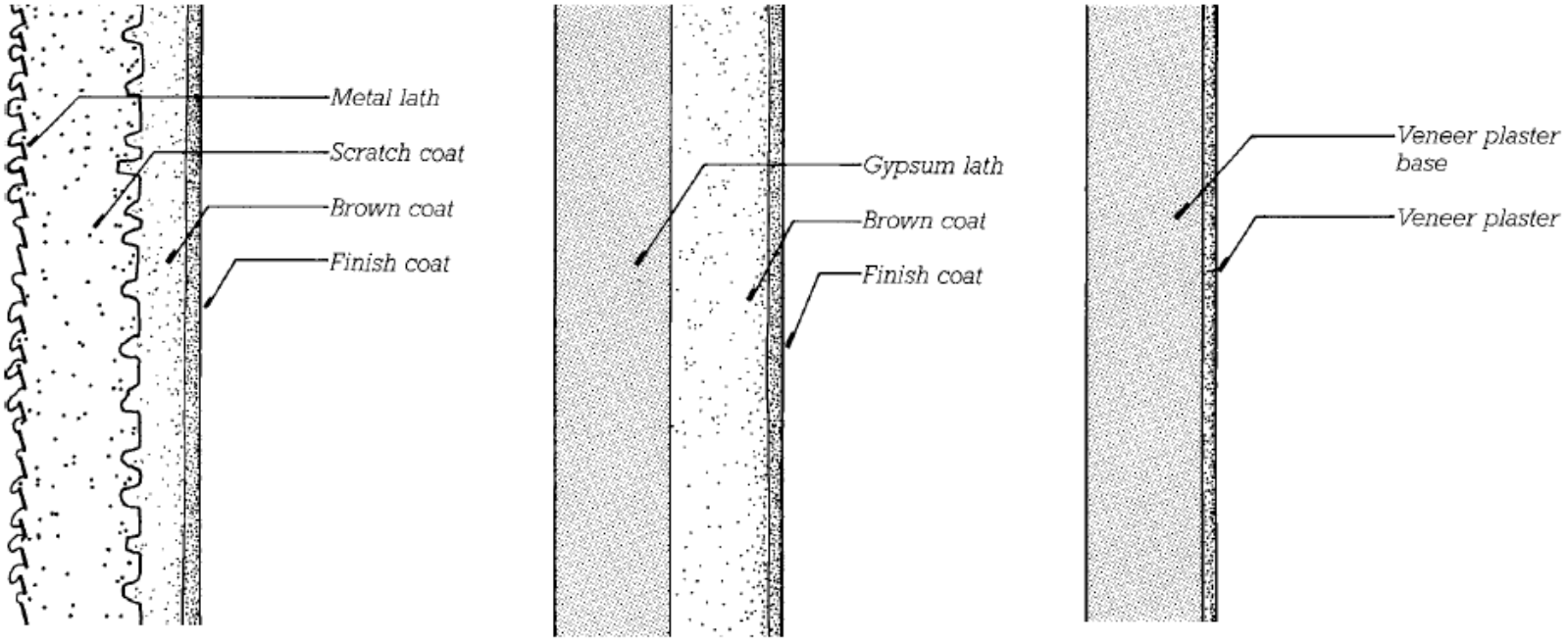
USG Control
Joint #093



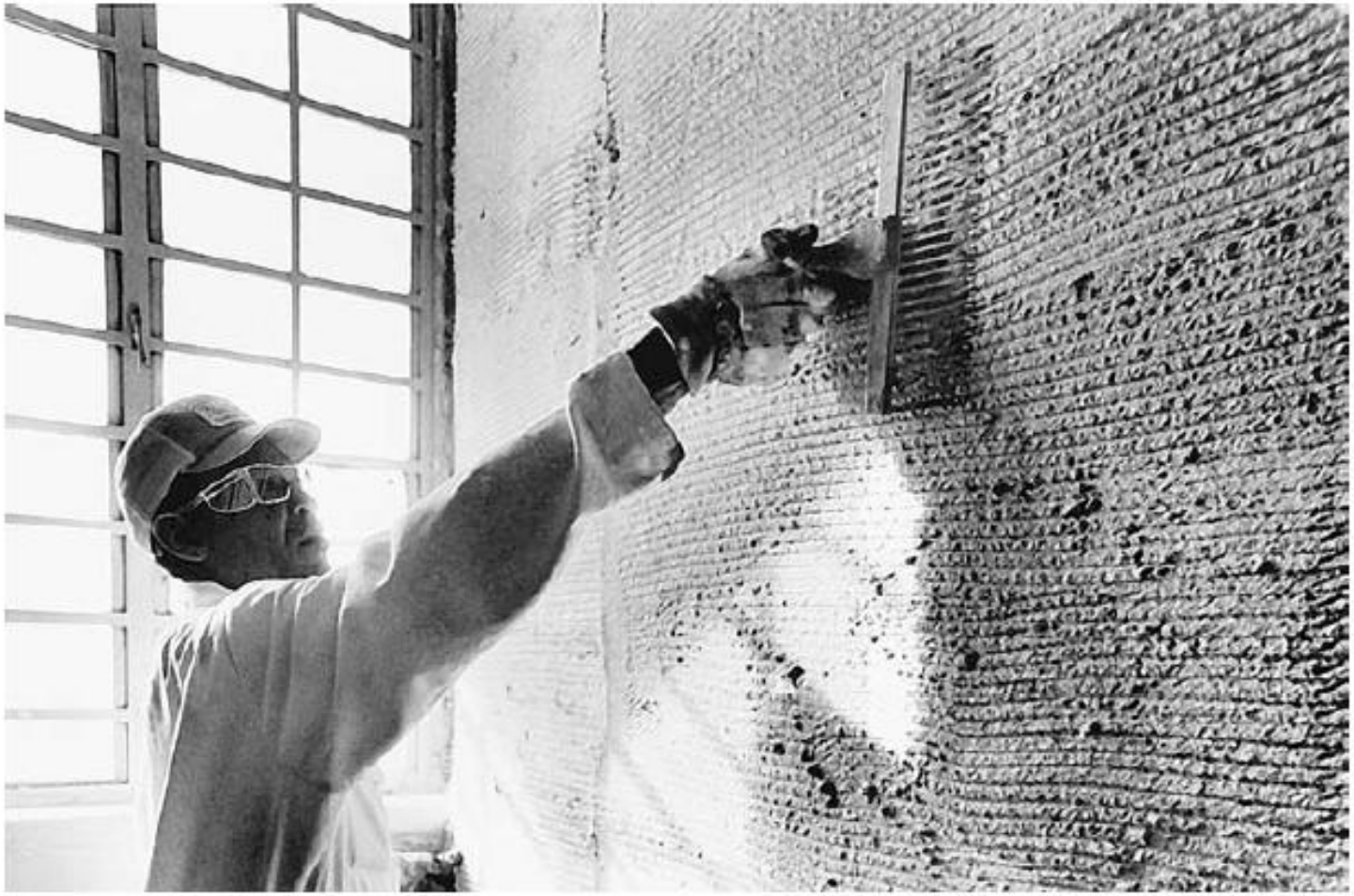


USG Expansion
Joint #15



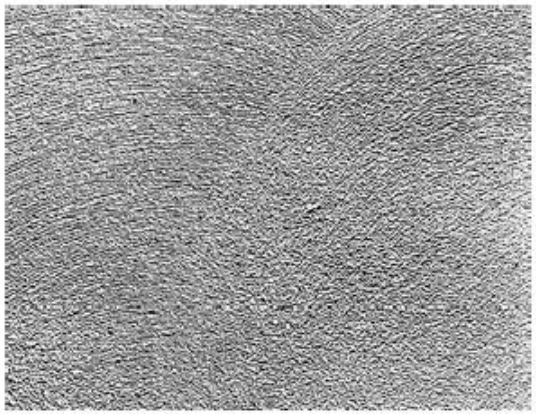


Sections through the three common lath-and-plaster systems.



Scratching the scratch coat while it is still soft to create a better bond to the brown

FIGURE 22.15



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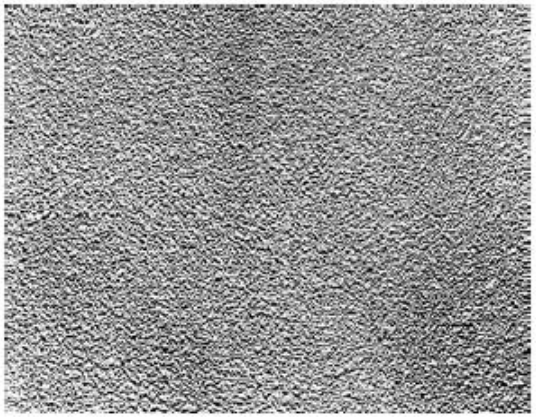

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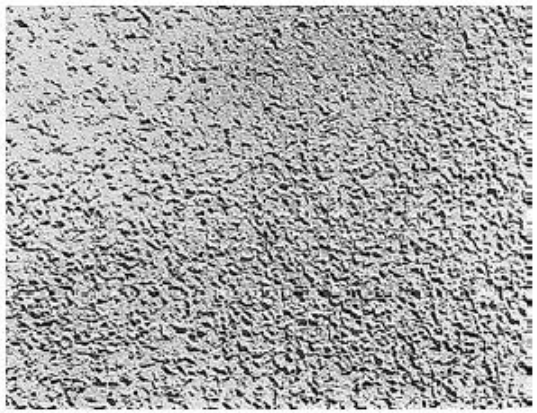

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