CEILINGS

Purpose
- Acoustics
- Accessibility
- Light reflectance
- Aesthetics
- Support for light fixtures, etc.
- Hide ductwork, wiring, and structure
Exposed Structure Ceilings
Gypsum Wallboard Ceilings
Plaster Ceiling
Vaulted Ceilings
Domed Ceilings
Cofferd Ceilings
Coves and Soffits
Specialty Ceilings
Acoustical Tile or Panel Ceilings
Gypsum Wallboard Ceilings

- Used for high quality, attractive flat surface-mounted or suspended ceilings.
- More expensive than acoustical ceilings.
- Reflects sound (rather than absorbs sound).
- Suspended ceilings usually require access panels to plenum.
- Construction of suspended ceiling:
  - Attach pencil rod to deck with clip angle or other means
  - Attach cold rolled steel channel (black iron) grid to pencil rods with friction clip
  - Attach furring channel to black iron with furring channel clip
  - Screw GWB into furring channel
  - Tape, spackle, paint
Gypsum Wallboard Ceiling
Vertical Section Detail
Gypsum Wallboard Cove
Vertical Section Detail

[Diagram of Gypsum Wallboard Cove with labels and annotations]
Gypsum Wallboard Soffit
Vertical Section Detail
Plaster Ceilings

• Used for highest quality, attractive flat or curved suspended ceilings.
• More expensive than GWB or acoustical ceilings.
• Reflects sound (rather than absorbs sound).
• May require access panels to plenum

Construction of suspended ceiling:
• attach pencil rod to deck with clip angle or other means
• attach cold rolled steel channel (black iron) grid to pencil rods with friction clip
• wire expanded metal lath to black iron
• install two or three coats of plaster
• apply paint or other finish
Plaster Ceiling
Vertical Section Detail
Vaulted Plaster Ceiling
Vertical Section Detail
Noise Reduction

- Noise control is necessary within rooms to reduce ambient noise levels and echoes.
- In general, soft, sound absorbent materials make a room quieter.
- A measure of the sound absorption of a material is its Noise Reduction Coefficient (NRC) rating.
- An NRC rating is the percentage of incident sound that is absorbed rather than reflected.
- Typical NRC ratings are:
  - marble, tile .00
  - GWB .05
  - wood flooring .10
  - carpet .30 - .50
  - acoustical tile .60 - .70
  - open window 1.00
Acoustical Ceilings

- Used for flat, suspended utilitarian ceilings in offices, schools, retail stores, etc.
- Less expensive than GWB or plaster.
- More accessible than GWB or plaster.
- **Absorbs sound** (rather than reflects sound like GWB or plaster).
- Two basic types:
  - lay-in or exposed grid acoustical panels are the least expensive; panels are typically 2’ x 2’ or 2’x 4’
  - concealed spline 12” by 12” acoustical tiles attempt to mimic plaster ceilings; more expensive than lay-in panels
Acoustical Panel or Tile Ceiling
Vertical Section Detail

hanger