

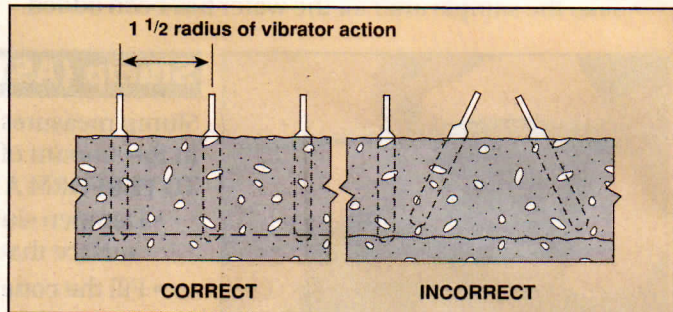
# Vibrating Concrete

## PROPER INTERNAL VIBRATION

- Increases compressive strength and bond between concrete and rebar and decreases concrete permeability
- Decreases cold joints, honeycombing, excessive entrapped air, and segregation
- Causes concrete within a circular field of action to act like a liquid

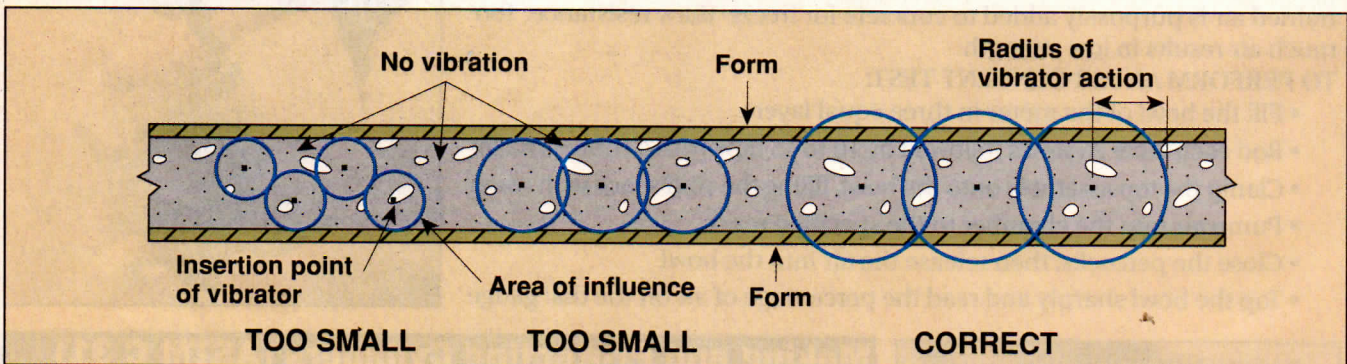
## HOW TO VIBRATE

- Insert vibrator vertically, allowing it to penetrate rapidly to the bottom of the lift and at least 6 inches into the previous lift
- Hold at bottom of lift for 5 to 15 seconds
- Pull vibrator up at a rate of 15 seconds for a 4-foot lift (about 3 inches per second)



## SPACING TIPS

- Insert a vibrator so the fields of action overlap
- Watch the concrete to determine the vibrator's field of action
- High-powered vibrators and high-slump concretes have larger fields of action
- Rule of thumb: the field of action is 8 times the vibrator's head diameter



## STOP VIBRATING CONCRETE WHEN

- The concrete surface takes on a sheen
- Large air bubbles no longer escape
- You hear the vibrator change pitch or tone
- You feel a change in vibrator action

## VIBRATING DON'TS

- Don't let a vibrator run very long outside concrete; it will overheat
- Don't use a vibrator to move concrete horizontally
- Don't force or push a vibrator into concrete; it won't remain vertical and may get caught in the reinforcement
- Don't start a job without a spare vibrator

