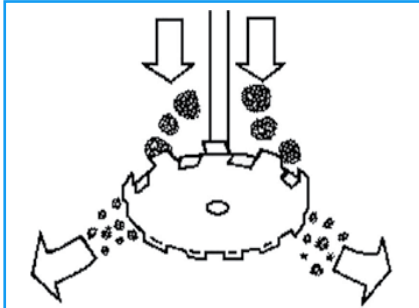
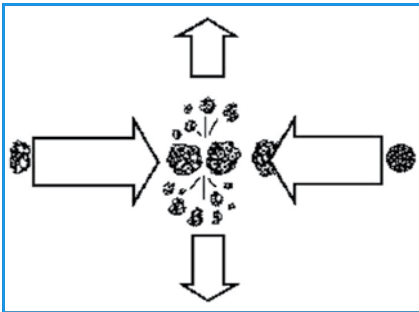


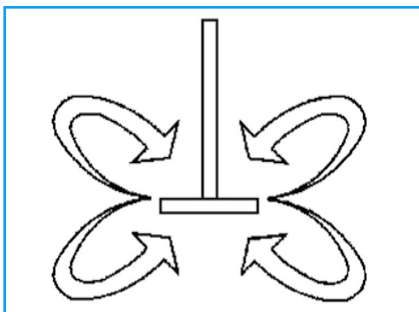
## How Dispersion Works



Particles hit the blade and are broken apart.



In the intense turbulence surrounding the blade, particles hit one another at high speeds and are further broken. The area where these collisions occur, beginning at the blade and extending out about two inches, is called the “zone of attrition”.



Beyond the zone of attrition, the now broken material is thoroughly mixed and particles are dissolved or dispersed by the laminar flow set up by the blade. The flow is separated at the vessel's wall ensuring complete circulation.

## HOW TO GET THE MOST FROM YOUR DISPERSION...

### BLADE SIZE

The diameter of the dispersion blade should measure about 1/3 the diameter of the vessel in which the blade will be used.

### BLADE POSITIONING

The blade should normally be placed about one full blade diameter off the tank bottom. The maximum depth of the material should not exceed three times the diameter of the blade. The minimum depth above the blade should not be less than the amount below the blade.

### VESSELS

Round vessels almost always provide better dispersions than square vessels because they have no “dead areas” in the corners.

### TIP SPEEDS

Dispersion blades should generally be run at tip speeds of 4,000 to 6,000 feet per minute. Your precise tip speed can be determined by using the equation:  

$$\text{FPM} = \text{RPM} \times .262 \times \text{Blade Diameter (inches)}$$

### TROUBLESHOOTING

If the action is slow, the blade may be raised in the tank to 2½ times the blade diameter to obtain a good flow, as long as the amount of material above the blade is greater than the amount below. At this point, good action is usually assured in the bottom of the container.

If an excessive vortex is created, the blade may be lowered.

When adding materials for a test, always introduce the liquid phase first. In most cases, the machine should be started and then the solid phase can be added. On some formulations such as enamels, best results may be obtained by adding the vehicle to the tank and then adding all of the pigments before turning on the motor.

### REMEMBER

The optimum action of a disperser is a combination of rotary and radial flow. A particle starting at the outer edge of the container should travel to the center of the vortex in less than 360 degrees.