

# Modern Materials®

## Dental Gypsum and Plaster Materials

### MIXING INSTRUCTIONS

All gypsum materials must be mixed carefully if the maximum desired properties are to be attained. We recommend the following mixing technique.

1. Use a clean, flexible rubber or plastic bowl.
2. Use the proper ratio of water to powder. Measure room temperature water into mixing bowl.
3. Add powder to liquid.
4. Use a clean, stiff spatula and spatulate at a rate of 120 RPM for 60 seconds until a smooth and uniform mix is achieved.\* Recommended time for mechanical spatulation under vacuum is 15 seconds at low speed.
5. Place a small mass of mixed material in one corner of the impression and place on a vibrator. Tip the impression so the material flows into the recesses. Continue to add stone in small increments until the entire impression is filled.

### STORAGE

Gypsum materials are subject to deterioration when exposed to the atmosphere, particularly to high humidity. Store all gypsum powder in a dry place in an airtight container.

### FACTORS AFFECTING SET TIME

1. Water temperature – Within certain limits, water temperature will affect setting time. The colder the water used, the longer is the setting time.
2. Spatulation – The time and speed of spatulation affect the setting time and strength of gypsum materials. Rapid spatulation accelerates the setting time and produces the greatest strength.
3. Water-Powder Ratio – When a high proportion of water is used, setting time is retarded and crushing strength is lowered.

\*Hand mix StatStone for 15-20 seconds.

## PHYSICAL PROPERTIES

Product	Ratio Water/Powder	Initial Set (Min.)	Compressive MPa/PSI Strength (Dry 1hr.)**	Setting Expansion**
<b>Die-Keen®</b>	21 ml/100 gm*	10–13	≥35/5080	0.16—0.30%
<b>Die-Keen® Resin Reinforced</b>	20 ml/100 gm	7–9	≥35/5080	≤0.15%
<b>Die-Stone®</b>	22 ml/100 gm	10–13	≥35/5080	≤0.15%
<b>Modern Flow®</b>	22 ml/100 gm	13–16	≥20/2900	≤0.15%
<b>Denstone®</b>	30 ml/100 gm	8–10	≥20/2900	≤0.20%
<b>Statstone®</b>	23 ml/100 gm	3	≥20/2900	≤0.20%
<b>0-67® Snow White</b>	26 ml/100 gm	9–11	≥20/2900	≤0.20%
<b>Labstone®</b>	30 ml/100 gm	8–10	≥20/2900	≤0.20%
<b>Orthodontic Plaster</b>	35 ml/100 gm	12–14	≥9/1305	≤0.30%
<b>Lab Plaster</b>	47 ml/100 gm	F† 4–6 R† 6–8	≥9/1305	≤0.30%

\*For increased flow, add up to 1 ml additional water

†F = Fast R = Regular

\*\*From International Standard for Dental Gypsum Products Third Edition 2013-04-01

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