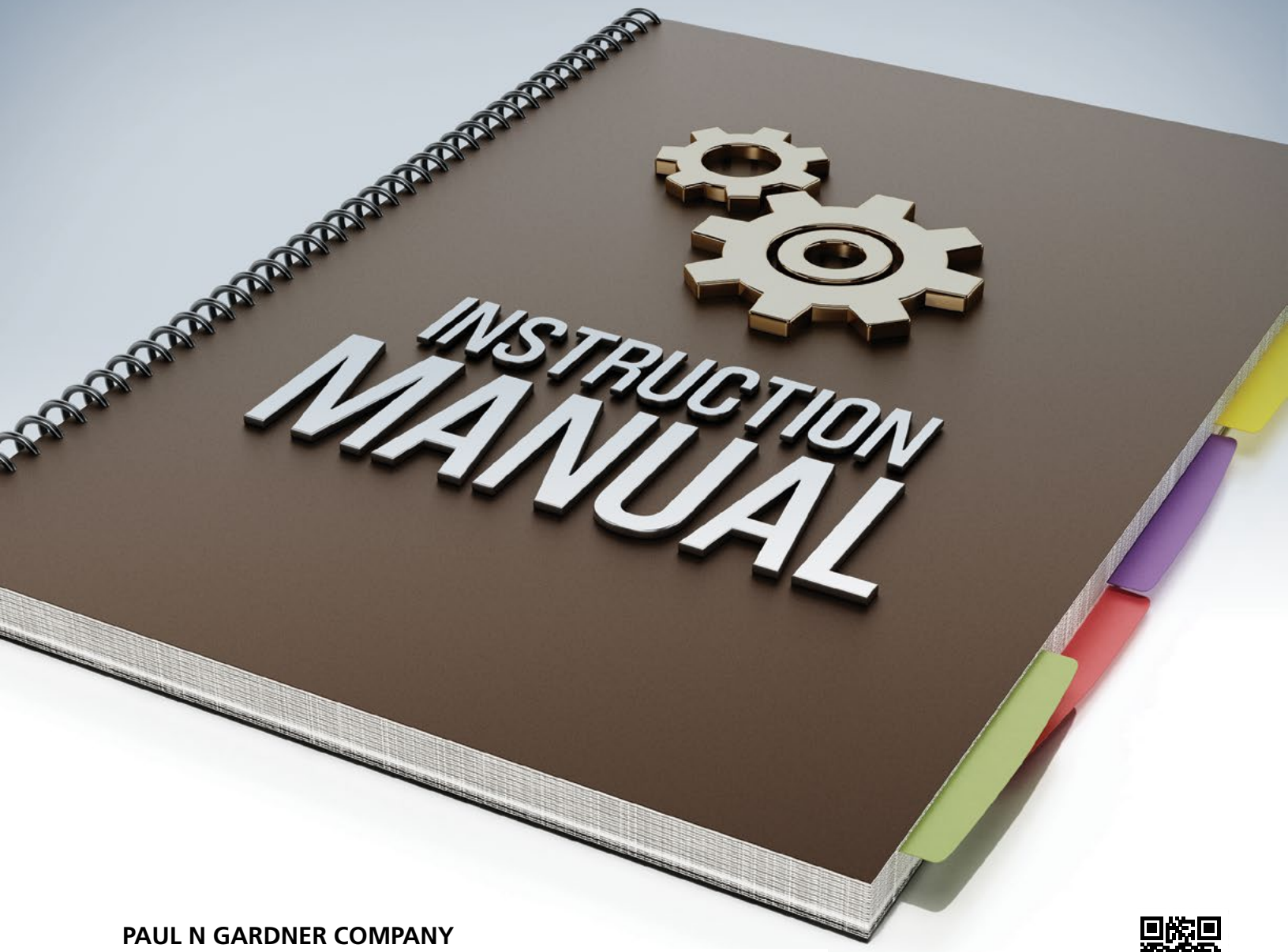

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INSTRUCTIONS

GARDCO DISTRIBUTED PRODUCTS

Universal Blade Film Applicator
Quick Start Manual

METHOD OF USE FOR UNIFORM FILMS

- **Setup:**
  - Place the applicator on a **smooth, flat surface** (e.g., plate glass).
- **Adjust the Side Plate (First Side):**
  - Loosen a clamping bolt on one side.
  - Move the side plate to match the desired **clearance value** on the scale with the **reference mark** on the blade.
  - Apply light downward pressure to ensure the **lip of the blade** contacts the top edge of the side plate.
  - Tighten the clamping bolt **finger-tight.**
- **Repeat for the Other Side:**
  - Perform the same adjustment on the **opposite side**, ensuring both sides match the same clearance value.
- **Prepare for Coating:**
  - Ensure the applicator is firmly placed on the flat surface.
  - Add a **pool of coating material** near the blade.
- **Apply the Coating:**
  - Hold the applicator by the sides.
  - **Pull it along the surface** through the coating pool at a speed of **10–12 inches per second**.
- **Clean the Applicator:**
  - After application, **remove the applicator** and **clean it immediately** using a suitable solvent.

METHOD OF USE FOR HIDING POWER / SPREADING RATE

1. **Initial Setup:**
   - For first-time testing, set one applicator side plate at **maximum clearance** and the other at **zero.**
   - Use a **black and white spreading rate chart** on a supported surface.
2. **Drawdown Process:**
   - Perform the drawdown (application of the coating in a uniform film).
   - **Observe** where the film fully hides the black/white background.
3. **Spreading Rate Chart Use:**
   - Find the distance from the **minimum film thickness** (on the wedge chart) to the point where **complete hiding** occurs.
   - Use this distance to calculate the clearance using:

$$\text{Clearance (mils)} = \frac{(\text{High Setting} - \text{Low Setting}) \times \text{Measured Distance}}{\text{Applicator Width}}$$

- Example:
  - Applicator width: 6 in
  - High setting: 6
  - Low setting: 4
  - Measured distance: 3 in

$$\text{Clearance} = \frac{(6-4) \times 3}{6} = 1 \text{ mil}$$

4. **Wet Coating Thickness Adjustment:**
   - Wet film thickness is typically **half** the blade clearance (e.g., 5 mil clearance → 2.5 mil wet film).
   - Confirm this for each product.

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5. **Spreading Rate Calculation:**

$$\frac{1604}{\text{Wet Film Thickness (mils)}}$$

- Example:

$$\text{Spreading Rate} = \frac{1604}{2.5} = 642 \text{ sq ft/gal}$$

METHOD OF USE FOR FINENESS OF GRIND

- Fineness of grind doesn't just refer to how finely a material is ground, but rather how completely pigment is dispersed in a system—free of clumps (agglomerates) of undispersed pigment. This is important because the hiding power of a pigment system is highest when all clumps are broken apart and each pigment particle is evenly coated by the vehicle.
- Agglomerates can negatively affect both the appearance and protective qualities of a coating. Traditional grind gages only allow testing of small sample amounts, limiting their usefulness. Instead, use the Universal Blade Applicator (as used in the Hiding Power test), but perform the test on a plate glass surface.
- The applicator's wedge design helps highlight the most relevant results. After applying the material, examine the strip where the coating starts to show scratches or unevenness. These marks come from particles or clumps larger than the gap under the blade. Measure the blade clearance at that point to determine the fineness of grind, using the same method described under the Hiding Power test.