PQI 301 Offset Cheat Sheet

1. Power on the PQI 301.

2. Enter the Pavement Type or Stone Size in the mix.

2a. Enter depth of compacted Pavement

Example: 2in. or 50mm.

3. Go to the Mix Info. to enter the mix **MTD (Max Theoretical Density).** Obtain this from the plant or lab. Enter the MTD into the PQI 301 in either lbs/ft^3 or kg/m^3

Example: If the labs says its 2.543 to convert to lbs/ft^3 multiply by 62.4 and you will get 158.6lbs/ft^3 or to enter as kg/m^3 simply enter 2543.

4. After you input the MTD press the enter key until you get to an operating mode. There are 3 density measurement modes: **Continuous, Single and Average**. Choose **Single Mode**.
**Use the "Mode" key to move from one mode to another.

Important rules of use with regard to H^{2}0 and Temperature:

**H20 value shown on the PQI 301 display must be between 0-10 or you cannot count the reading as being accurate. A towel should be used to clean the PQI 301 sensor and mat.

**Temperature value being displayed should be appropriate for the section of mat your working on

5. Calibrating the PQI 301 to the Mix:

Calibrate the PQI 301 during the first hours of paving to the screed, then peak out the mat with a roller.

Example: Based on the MTD for the mix estimate what the screed is providing as a percentage of compaction. Rule of thumb is 85%

Use this calculation: MTD x .85 = screed density

Example: 158.6 x .85 = 134.8lbs/ft^3

Use the PQI 301 to measure 5 locations behind the screed before the break down roller and write down the density value from the PQI 301 screen for each location.

Example: 124.0, 124.1, 124.5, 124.0, 124.2

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5. Compute the Average of the 5 readings behind the screed (Average = **124.1lbs/ft³**)

Compute the difference between the estimated screed density and the Average PQI 301 reading behind the screed. **Example:** 134.8 - 124.1 = 10.7

10.7 is the calibration offset you need to put into the PQI 301 to make it read 134.8 or 85% behind the screed.

6. Entering the Calibration Offset into the PQI 301:

- Press the "CAL" key on the keypad
- Choose Normal Calibration
- In this example you would choose that the PQI 301 was reading too "Low" compared to the estimated screed density.
- On the next screen, type in the adjustment offset of 10.7 and press the enter key.
- Confirm the adjustment value on the next screen and choose the option to use the new offset value.
- Press the enter key until you return to an operating mode.

Now take the "Screed Calibrated PQI 301" and work with a roller to "Peak the mat".

7. Peaking the Mat:

****Important: make sure H^20 number is between 0-10 for each PQI 301 reading to be accurate.**

- Pick a location and measure the density with the PQI 301.
- Use the roller and roll that part of the mat.
- Measure again and note the increase in density.
- Continue this process until the density on the PQI 301 does not go any higher.
- When the density reaches the highest value, that is the density value you need to achieve on your finished mat.

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8. Core Calibration:

- Once the peaked location on the mat cools, cut a core from the mat and have it analyzed immediately at the lab.
- Compare the core result to the PQI 301 measurement at that location and calculate the difference.
- If there is a difference, follow the steps above to adjust the calibration one last time.

Other Helpful Hints:

- Charge the PQI 301 after each use.
- Clean the PQI 301 sensor with WD-40 or Citrus cleaner
- Have a towel with the PQI 301 at all times to keep the sensor dry.
- The PQI 301 and the carry case are not water proof.