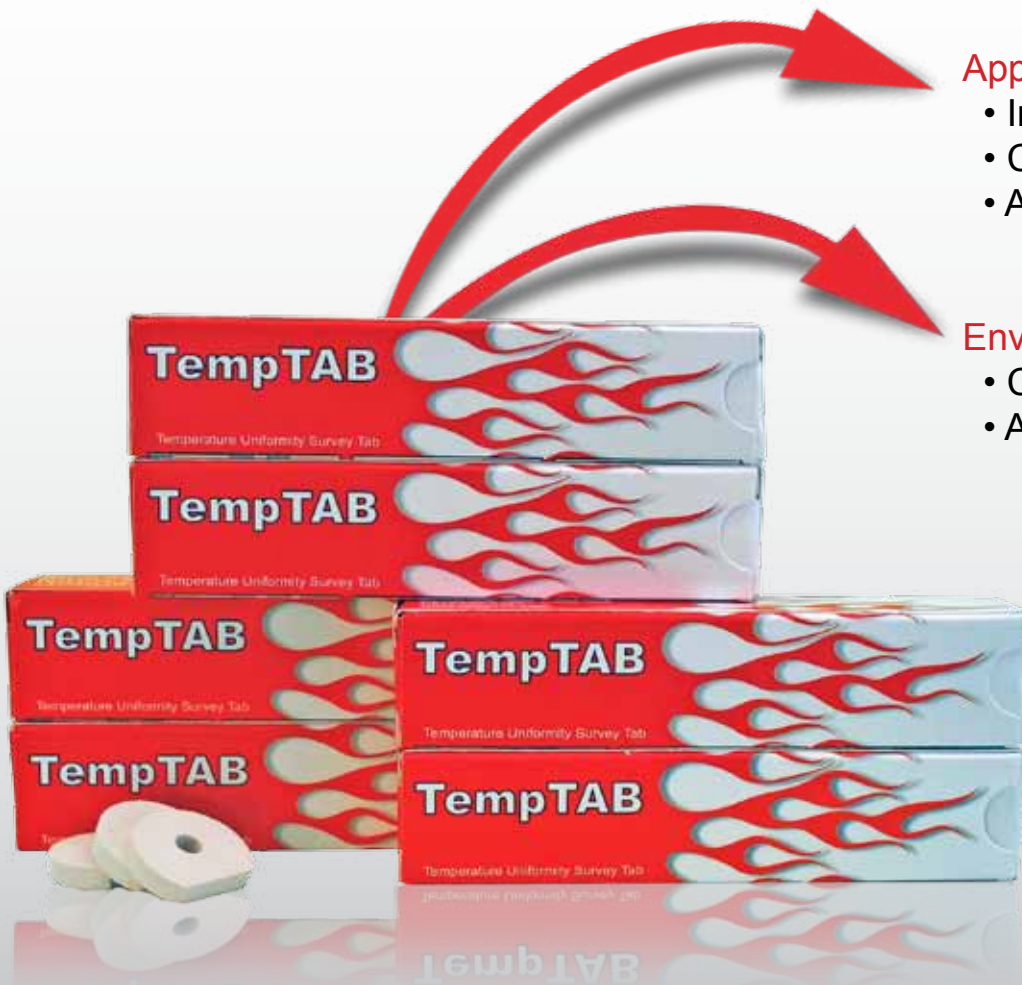# TempTAB™

**( Patent Pending )**

An easy, cost effective method to determine temperature uniformity in kilns without the use of wires or electronics.

**Applications:**
- Investment Casting Molds
- Ceramic Tile
- Advanced Ceramics

**Environments:**
- Controlled Atmosphere
- Air

www.temptab.com

# TempTAB™

**( Patent Pending )**

### What will TempTABs do for my business?
TempTABs are an easy, cost effective method to monitor process temperatures and temperature uniformity in kilns without the use of wires, electronics or thermocouples.

### How do they work?
TempTABs are made from materials that exhibit controlled shrinkage over time. They measure the effect of temperature and the effect of time at temperature.

### Which TempTAB is right for me?
TempTABs are currently available in 5 different temperature ranges

| | | |
|---|---|---|
| TempTAB 300 | 850-1,100C | (1,562-2,012F) |
| TempTAB 400 | 1,000-1,200C | (1,832-2,192F) |
| TempTAB 600 | 1,100-1,300C | (2,012-2,372F) |
| TempTAB 650 | 1,200-1,500C | (2,192-2,732F) |
| TempTAB 700 | 1,450-1,700C | (2,642-3,092F) |



### My process involves rapid heat up. Will they work for me?
Yes. TempTABs are pre-treated to remove any organics or other volatile by-products. They are designed to survive fast firing cycles.

### Where should I place my TempTABs?
TempTABs can be placed anywhere within the load, preferably in the same locations as where temperature uniformity is being verified Regular use will allow you to verify your process and allow you to see trends that may develop over time.

### Why do TempTABs have a hole in the middle?
TempTABs are designed to be used in a variety of conditions. In applications where they need to be suspended in the firing chamber or where they are exposed to high velocity air movement, it is recommended that the TempTABs be secured in position with a wire threaded through the center hole.

### Can I check the uniformity of my kiln without wires, bulky thermal protection packages or electronics?
Yes. TempTABs allow you to easily verify the temperature uniformity inside your kiln as often as you like.

### Benchmarking and why it is important.
Establishing a "Benchmark" or "Standard" is important in order to have "good information" to compare future results against. This is usually done by running TempTABs when the desired properties of your process are being achieved. If your process is ever called into question, it is easy to compare the most recent TempTAB results with the Bencmark information to determine if your process has changed.

### Instructions for Use
-Determine the locations you want to survey.
-Place the TempTABs in the locations to be profiled.
-Retrieve the TempTABs after going through the kiln.
-Measure the TempTABs using the Orton measuring indicator.
-Use the lookup table or the TempTAB Trakker software to determine the relative temperatures achieved.

By comparing the results you can determine the overall uniformity of your kiln. You can easily verify the effect of any changes made to improve the uniformity.

### How do I use the lookup table?
TempTABs can be used in a variety of kilns and conditions. Each batch comes with its own calibrated batch sheet. TempTABs are calibrated for processes with the time in the kiln heating chamber at 10, 30, 60, 120 and 240 minute cycles. Once you have the final dimension of the TempTAB, you look for the corresponding temperature in the column that best matches your process. By plotting the relative temperatures of all the TempTABs collected, you can determine the relative temperature uniformity inside the kiln.

# TempTAB 400 Equivalent Temperature Table Batch BPD-1 (Degrees F)

| Dimension (mm) | 10 Minutes | 30 Minutes | 60 Minutes | 120 Minutes | 240 Minutes |
|---|---|---|---|---|---|
| 26.51 | 2069.7 | 2049.4 | 2024.1 | 1997.4 | 1975.3 |
| 26.52 | 2068.9 | 2048.6 | 2023.3 | 1997.0 | 1974.5 |
| 26.53 | 2068.1 | 2047.8 | 2022.6 | 1996.6 | 1973.7 |
| 26.54 | 2067.3 | 2047.1 | 2021.8 | 1996.3 | 1972.9 |
| 26.55 | 2066.5 | 2046.3 | 2021.0 | 1995.9 | 1972.1 |
| 26.56 | 2065.8 | 2045.6 | 2020.3 | 1995.5 | 1971.3 |
| 26.57 | 2065.0 | 2044.8 | 2019.5 | 1995.1 | 1970.5 |
| 26.58 | 2064.2 | 2044.0 | 2018.8 | 1994.8 | 1969.7 |
| 26.59 | 2063.5 | 2043.3 | 2018.0 | 1994.4 | 1968.9 |
| 26.60 | 2062.9 | 2042.5 | 2017.2 | 1994.0 | 1968.1 |
| 26.61 | 2062.2 | 2041.7 | 2016.5 | 1993.0 | 1967.3 |
| 26.62 | 2061.5 | 2041.0 | 2015.7 | 1992.0 | 1966.5 |
| 26.63 | 2060.8 | 2040.2 | 2014.9 | 1991.0 | 1965.7 |
| 26.64 | 2060.2 | 2039.4 | 2014.2 | 1990.1 | 1964.9 |
| 26.65 | 2059.5 | 2038.7 | 2013.4 | 1989.1 | 1964.1 |
| 26.66 | 2058.8 | 2037.9 | 2012.6 | 1988.1 | 1963.3 |
| 26.67 | 2058.1 | 2037.1 | 2011.9 | 1987.1 | 1962.5 |
| 26.68 | 2057.5 | 2036.4 | 2011.1 | 1986.1 | 1961.7 |
| 26.69 | 2056.8 | 2035.6 | 2010.3 | 1985.1 | 1960.9 |
| 26.70 | 2056.1 | 2034.8 | 2009.6 | 1984.1 | 1960.1 |
| 26.71 | 2055.4 | 2034.1 | 2008.8 | 1983.1 | 1959.3 |
| 26.72 | 2054.8 | 2033.3 | 2008.0 | 1982.2 | 1958.5 |
| 26.73 | 2054.1 | 2032.5 | 2007.3 | 1981.2 | 1957.7 |
| 26.74 | 2053.4 | 2031.8 | 2006.5 | 1980.2 | 1956.9 |
| 26.75 | 2052.7 | 2031.0 | 2005.7 | 1979.2 | 1956.1 |
| 26.76 | 2052.1 | 2030.2 | 2005.0 | 1978.2 | 1955.3 |
| 26.77 | 2051.4 | 2029.5 | 2004.2 | 1977.2 | 1954.5 |
| 26.78 | 2050.7 | 2028.7 | 2003.5 | 1976.2 | 1953.7 |
| 26.79 | 2050.0 | 2027.9 | 2002.7 | 1975.2 | 1952.9 |
| 26.80 | 2049.4 | 2027.2 | 2001.9 | 1974.3 | 1952.1 |
| 26.81 | 2048.7 | 2026.4 | 2001.2 | 1973.3 | 1951.3 |
| 26.82 | 2048.0 | 2025.4 | 2000.4 | 1972.3 | 1950.5 |
| 26.83 | 2047.3 | 2024.4 | 1999.6 | 1971.3 | 1949.7 |
| 26.84 | 2046.7 | 2023.3 | 1998.9 | 1970.3 | 1948.9 |
| 26.85 | 2046.0 | 2022.3 | 1998.1 | 1969.3 | 1948.1 |
| 26.86 | 2045.3 | 2021.3 | 1997.3 | 1968.3 | 1947.3 |
| 26.87 | 2044.6 | 2020.3 | 1996.6 | 1967.3 | 1946.5 |

# TempTAB™

### ( Patent Pending )

**TempTAB Measuring Indicator** is a measuring fixture designed specifically for TempTABs and includes an ISO certified calibration block. The fixture is designed to provide reproducible measurements and minimize operator error.

**TempTAB Trakker Software** simplifies the entire process by allowing users to input the final TempTAB dimension and the software will automatically lookup the process temperatures. The software allows users to gather and compare data for over 300 runs in up to nine locations inside the kiln, thus providing valuable documentation of the kiln's performance over time.

### How are they packaged?
TempTABs are packaged 25 pieces to a sleeve and 10 sleeves to a box (250 pieces per box).

## To order TempTABs:

Inside the US:
     Order online at http://temptab.com

Outside the US:
     Send requests to info@temptab.com
     Or call +1-614-818-1318
     Fax +1-614-895-5610