



# RECOMMENDED SRC VALUES FOR SELECTED PRODUCTS

U.S. Wheat Associates (USW) technical staff recommend these Solvent Retention Capacity (SRC) profiles for cookie and cracker products. The recommended ranges are wide; most industrial users will identify a narrower target range for each product based on their own experience.

| SRC SOLVENTS                | CRACKER FLOUR (%)* | COOKIE FLOUR (%)* | WAFER FLOUR (%)* |
|-----------------------------|--------------------|-------------------|------------------|
| 100% Water                  | 50 to 70           | 50 to 70          | 50 to 70         |
| 50% Sucrose                 | 80 to 110          | 80 to 110         | 80 to 100        |
| 5% Sodium Carbonate (pH 11) | 60 to 85           | 60 to 85          | 60 to 85         |
| 5% Lactic Acid (pH 2)       | 100 to 120         | 85 to 100         | 80 to 100        |

\* Solvent weight as percent of flour weight, both weights on 14% moisture basis.

## SOFT WHEAT PRODUCTS

Soft wheat flour for cookies, crackers and wafers are very sensitive to Lactic Acid SRC values, but share similar profiles for the other solvents. A precise Lactic Acid profile with the other solvents in the recommended ranges will go a long way towards eliminating in-plant process problems.

| SRC SOLVENTS                     | BAKERS FLOUR |              |
|----------------------------------|--------------|--------------|
|                                  | RANGE (%)*   | OPTIMUM (%)* |
| 100% Water                       | 65 to 70     | 70           |
| 50% Sucrose                      | 105 to 115   | 110          |
| 5% Sodium Carbonate (pH 11)      | 80 to 90     | Maximum 88   |
| 5% Lactic Acid (pH 2)            | > 140        | 150          |
| Gluten Performance Index (GPI)** | Minimum 0.75 | Minimum 0.75 |

\* For all except GPI, solvent weight as percent of flour weight, both weights on 14% moisture basis.

\*\* GPI = Lactic Acid / ( Sucrose + Sodium Carbonate )

## PAN BREAD FLOUR

Sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) maximum value at 88 is recommended. If excessive damaged starch is present ( $\text{Na}_2\text{CO}_3 > 90$ ), bread staling will be accelerated with reduced shelf life. Higher Sucrose SRC values indicate higher water retention capacity in the finished bread. GPI is highly correlated to bread volume. GPI values of  $\geq 0.75$  are recommended for optimum pan bread loaf volume. Higher Lactic Acid SRC values (preferably over 140) and lower  $\text{Na}_2\text{CO}_3$  values will increase GPI.  $\text{Na}_2\text{CO}_3$  values can be modified in the milling process.

