

## What Subgroup Level Control Tests come preconfigured with WinSPC?

| Family            | Test                       | Definition                  | Color  | Description  |
|-------------------|----------------------------|-----------------------------|--------|--|
| Standard          | 1 pt beyond control limits | RUN(PRI,1,1,Z)              | RED    | A single point outside of the control limits.  |
| Nelson            | 1 pt beyond Zone A         | RUN(PRI,1,1,Z)              | RED    | A single point beyond Zone A.  |
|                   | 2/3 pts Zone A or beyond   | RUN(PRI,2,3,A+)             | RED    | Two out of three points in a row in Zone A or beyond.                                      |
|                   | 4/5 pts Zone B or beyond   | RUN(PRI,4,5,B+)             | RED    | Four out of five points in a row in Zone B or beyond.                                      |
|                   | 9 pts Zone C or beyond     | RUN(PRI,9,9,C+, ONE SIDE)   | RED    | Nine points in a row in Zone C or beyond.  |
|                   | Mixture                    | RUN(PRI,8,8,B+,BOTH SIDES)  | PURPLE | Eight points in a row on both sides of the center line.                                    |
|                   | Stratification             | RUN(PRI,15,15,C,BOTH SIDES) | PURPLE | Fifteen points in a row all in Zone C or beyond.   |
|                   | {PRI} decreasing           | TREND(PRI,6,DOWN)           |        | Six points in a row, each one lower than the previous one.                                 |
|                   | {PRI} increasing           | TREND(PRI,6,UP)             |        | Six points in a row, each one higher than the previous one.                                |
|                   | {PRI} not changing         | TREND(PRI,6,STEADY)         |        | Six points in a row, each one within 1.5 times the standard deviation of the previous one. |
|                   | {SEC} decreasing           | TREND(SEC,6,DOWN)           |        | Six points in a row, each one lower than the previous one.                                 |
|                   | {SEC} increasing           | TREND(SEC,6,UP)             |        | Six points in a row, each one higher than the previous one.                                |
|                   | {SEC} not changing         | TREND(SEC,6,STEADY)         |        | Six points in a row, each one within 1.5 times the standard deviation of the previous one. |
| Shewhart          | 1 pt beyond Zone A         | RUN(PRI,1,1,Z)              | RED    | A single point beyond Zone A.  |
| Western Electric* | 1 pt beyond Zone A         | RUN(PRI,1,1,Z)              | RED    | A single point beyond Zone A.  |
|                   | 2/3 pts Zone A or beyond   | RUN(PRI,2,3,A+)             | RED    | Two out of three points in a row in Zone A or beyond.                                      |
|                   | 4/5 pts Zone B or beyond   | RUN(PRI,4,5,B+)             | RED    | Four out of five points in a row in Zone B or beyond.                                      |
|                   | 8 pts Zone C or beyond     | RUN(PRI,8,8,C+,ONE SIDE)    | RED    | Eight points in a row in Zone C or beyond.   |
|                   | Mixture                    | RUN(PRI,8,8,B+,BOTH SIDES)  | PURPLE | Eight points in a row on both sides of the center line.                                    |
|                   | Stratification             | RUN(PRI,15,15,C,BOTH SIDES) | PURPLE | Fifteen points in a row all in Zone C or beyond.   |
|                   | {PRI} decreasing           | TREND(PRI,6,DOWN)           |        | Six points in a row, each one lower than the previous one.                                 |
|                   | {PRI} increasing           | TREND(PRI,6,UP)             |        | Six points in a row, each one higher than the previous one.                                |
|                   | {PRI} not changing         | TREND(PRI,6,STEADY)         |        | Six points in a row, each one within 1.5 times the standard deviation of the previous one. |
|                   | {SEC} decreasing           | TREND(SEC,6,DOWN)           |        | Six points in a row, each one lower than the previous one.                                 |
|                   | {SEC} increasing           | TREND(SEC,6,UP)             |        | Six points in a row, each one higher than the previous one.                                |
|                   | {SEC} not changing         | TREND(SEC,6,STEADY)         |        | Six points in a row, each one within 1.5 times the standard deviation of the previous one. |

### Introduction

WinSPC allows you to set up rules known as Control Tests against your control charts in Data Collection mode. These Control Tests are referred to as Subgroup Level Control Tests. When violated, WinSPC can be configured to react by using triggers.

WinSPC comes preconfigured with the most common Subgroup Level Control Tests. For information on how to create your own custom Subgroup Level Control Tests, please reference the WinSPC Version 8 Administrator Training Manual, Chapter 24, Page 395, as well as additional information in the following knowledgebase article for WinSPC versions 8.3.4 and newer:

<https://knowledgebase.winspc.com/questions/311>

These tests are broken up into families of tests, based on various commonly used SPC methodologies. These include the Shewhart, Western Electric, and Nelson tests.

#### Table of Preconfigured WinSPC Subgroup Level Control Tests

Family - The family indicates which set or family of rules the Subgroup Level Control Test is based on.

Test - The test is the name of the Subgroup Level Control Test as it appears in the WinSPC Tree.

Definition - Reference to the actual syntax used by WinSPC that defines a named given test.

Color - The control test will cause the subgroup listed on the Control Chart to change color to highlight the violation on the chart. The severity of the color appears in Data Collection as well as Plant Monitor.

Description - The description of the Subgroup Level Control Test, as it appears inside WinSPC.

\*Western Electric rules are sometimes also referred to as AT&T rules.

<https://knowledgebase.winspc.com/questions/315/>