



SOLUTIONS

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X-bar R Statistical Process Control Charts

As part of EPI's quality control program, X-bar R charts are produced to compare the results of the hundreds of seam sample destructive tests performed in EPI's QC Lab. By continually monitoring performance of our welding process using Statistical Process Control, EPI has continually improved the quality and consistency of our PVC chemical fusion welding process to a 99.7% confidence level.

The top portion of the chart at the left is the X-bar chart. This portion graphically illustrates the numerical average of the results of the four individual specimens tested from each sample. The four lines on the chart represent:

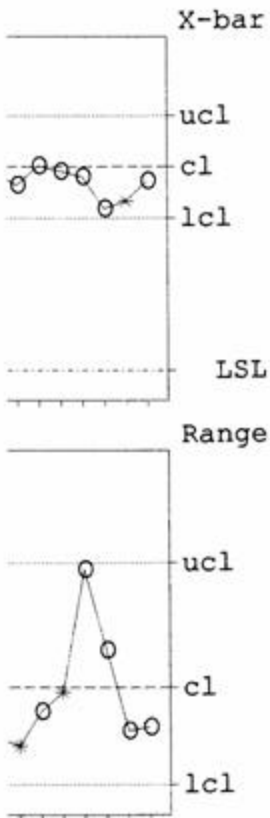
- LSL - Lower Specification Limit
- cl - SPC Control Limit
- ucl - SPC Upper Control Limit
- lcl - SPC Lower Control Limit

The numerical value for each of these limits is listed at the bottom of the chart for the X-bar and Range.

Each point on the chart represents four individual tests.

The bottom portion of the chart at the left is the Range chart. This portion graphically illustrates the numerical difference (range) between the highest and lowest value reported for the four specimens tested from each individual sample.

Statistical Process Control is a sophisticated concept that can not be fully discussed here. In its simplest form, samples whose results fall within the Upper and Lower Control Limits are accepted without further review. Samples that fall outside the ucl and lcl are further analyzed to determine what factors in the process are causing the change in results, and corrective action is implemented. If the sample results fall below the specification limit, the sample is rejected, the seam is rejected and removed from the PVC panel, and the seam is re-welded and tested again.



Preserving water resources for future generations

For more Quality Control information visit our
web site at www.geomembrane.com