

SMARTree software is ideal for creating and populating trees that conform with a whole host of test standards such as ASTM International and ISO. The advantages with using SMARTree for building standards are:

- The standards can be compiled as a simple tree with a systematic hierarchy without the need for sifting through complex documents.
- The embedded logic features within the SMARTree client ensures compliance and completeness within the tree without missing any critical information.
- Required conditions can be easily identified from optional conditions with embedded logic.
- SMARTree standards can be linked to other standards for reference.
- You can embed test documents directly within a standard tree for completeness.

Below is a SMARTree for ASTM-D3039: Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials. Certain conditions have been applied to this standard such as entry of process specification, initial oven temperature, Operator name etc. The supervisor name, however is missing so this tree is incomplete (marked red) Also note that this missing information tags all higher elements in the hierarchy list so that the user can easily find what information is missing.

Many ASTM standards require the same basic information, whether it pertains to material fabrication, test user, sample preparation etc. These commonly used blocks of data can be accessed from tree templates stored locally, on the intranet or cloud space. This standard can also be populated with actual test file data and data reduction on this data can be carried out within the client.

|                                     |        |                              |
|-------------------------------------|--------|------------------------------|
| Personal Information                | Header |                              |
| Material                            | Header |                              |
| Information                         | Header |                              |
| Phase                               | Header |                              |
| Fabrication                         | Header |                              |
| Initial Temperature                 | Value  | 25.00                        |
| Process Specification               | Text   | Simple Oven Heating and Cure |
| Consolidation Method                | Text   | Vacuum Pressure              |
| Equipment used in Manufacture       | Text   |                              |
| Start Date                          | Date   | 09:59:33 AM 04/25/2013       |
| End Date                            | Date   | 11:59:33 AM 04/25/2013       |
| Cure Cycle                          | Table  | 20C , 90min                  |
| Terminology                         | Header |                              |
| Note                                | Text   |                              |
| Nominal Value                       | Text   |                              |
| Transition Region                   | Text   | none                         |
| Transition Strain                   | Text   |                              |
| Symbols                             | Text   |                              |
| Interferences                       | Header |                              |
| Material and Specimen Preparation   | Text   |                              |
| Gripping                            | Select | Hydraulic                    |
| System Alignment                    | Text   |                              |
| Edge Effects in Angle Ply Laminates | Text   | none                         |
| Test                                | Header |                              |
| Test Information                    | Text   |                              |
| Test Standard                       | Text   | ASTM 3039                    |
| Operator                            | Text   | John Smith                   |
| Supervisor                          | Text   |                              |
| Project                             | Text   | Simple Tension Test Project  |
| Study                               | Text   |                              |
| Revision Level                      | Select | Hydraulic                    |
| Test Date                           | Date   | 09:59:33 AM 04/25/2013       |
| Analysis Date                       | Date   | 09:59:33 AM 04/25/2013       |
| Variations to Testing               | Text   |                              |
| Test Anomalies                      | Text   | none                         |
| Equipment Issues                    | Text   | none                         |
| Miscellaneous Information           | Text   |                              |