



Production QA and Extrusion Evaluation WBS 2.4.4

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QA for Mechanical properties

- Key to consistent material properties is process control
 - We will have well defined process windows for various parameters during the processing of the PVC and during the extruding
- Expectation is that extrusions made within allowable process window will have desired structural properties
 - This will be confirmed during tomorrow's prototype production run
- Additionally, systematic engineering runs are planned to determine process variable effects on physical properties
 - This will help define allowable variation in the process window
- Samples will be taken periodically through the production to allow measurement of various mechanical properties Minimum-
 - Once per shift
 - Upon exceptions (operator change, etc.)
 - Process variable excursion (can redefine window)



QA Tests of extrusions

- Impact / Fracture toughness
 - Drop dart impact test
- Extrusion quality
 - Adequacy of fusion test ASTM D 2152
- Strength properties-Tensile test
 - Modulus for relative comparison
 - Verify yield, ultimate stress
- Creep
 - Elevated temperature creep tests, FTTS, or relate it to initial modulus based on tensile test
- Density
- Reflectivity / Light yield
- Frequency