# **RØBOTAPE** by Innovative Automation



## ADHESIVE FOAM SPLICE JOINTS

### SPLICE JOINT STRATEGY - A TECHNICAL COMPARISON

#### 1) Why are splice joints required?

Adhesive foam tape is manufactured in a variety of formats to meet production needs. Level-wound spools are ideal for high volume production because they allow for the longest continuous run time of the equipment. To facilitate this, splices are required to join lengths of material to create the spool.

Some materials are manufactured in 'buns' or large blocks of foam which are then skived to size. This process dictates the maximum length of continuous material between splices, as an example, 70 meters can be possible on a material such as EPDM. The manufacturer's equipment and processes can also have an impact on the maximum continuous lengths. Certain materials can be extruded to reduce splices, however a splice will still occur when a spool is replaced on the machine.

#### 3) Functional splice

Many materials can be made with 'functional splices'. Some end users accept this type of splice on the finished part whereas some do not. Usually consisting of gluing or taping the ends of the foam together to maintain the continuous length. This is a process that must be confirmed with the spool manufacturer.



#### 2) Splice sensor

The RoboTape machine includes an RGB color sensor that senses the colored splice tape, usually red or blue. A splice tape should be chosen that is different in color to the liner. The sensor is located on the payout and the splice is tracked until it reaches the applicator head. Before starting each application the PLC checks to determine if there is enough material before a splice. This is manually set in the HMI for each application.

If enough material exists before the splice joint the robot will apply the tape, this process is repeated until there is not enough material for the next application and the RoboTape unit outputs a signal to indicate a purge is required. This signal can be used to trigger anything from purging to warnings or other machine functions. Once the RoboTape applicator indexes enough material to eliminate the splice, the output turns off. The machine can then be programmed to resume the next application.

<u>Note:</u> The splice tape that is used in a functional splice must adhere to the release coating on the liner. A special splice tape can be purchased from RoboTape.



