

## PCS Family

### *Qualitek PCS (Production Control System)*

#### Wet end Control Systems

Corrugating plants need enhanced wet end controls to maximize machine speeds and to optimally manage the wet end. Qualitek has the most advanced and innovative Production Control System. This system optimizes the corrugator by producing high-quality board at the highest possible speeds. It optimizes the wet end logistics of the corrugator through functions such as bridge speed controls, synchronized splicing, roll lineal computations, end of roll splicing and butt roll minimization.

#### Corrugator Production Control System

##### BridgeTek

Bridge lineal is maintained at an operator-entered target by adjusting singlefacer speed. Doublebacker speed is changed in the event that speed limits on the singlefacer prevent the bridge from being balanced.

Bridge volume is dynamically changed to keep the doublebacker speed steady during a splice sequence. Singlefacer speed is changed to fill the bridge, slowed down to splice speed and returned to cruise speed after the splice.

##### SpliceTek

On a paper change, splicing of the liners and mediums are synchronized to be within a plant specified splice packet to minimize chop out at the shear. A synchronized splice is automatically initiated on target lineal ly for the last order, or on the running out of a critical roll (to eliminate butt rolls) or as required by the operator.

As splices are fired, optimal speed control of the singlefacers and doublefacer are in effect...

A data link to the dry end controller automatically obtains order information and handshakes with the dry end to initiate the order change.

#### Optimal speed control for splicing

The singlefacer and doublefacer speeds are lowered to their target splice speeds before a liner or medium splice is initiated (manually or automatically). In either event, speeds are adjusted in a programmed sequence to build up the bridge, slowed down to splice speed and ramped up to operating speed after the splice.

#### Technical Features

- Platform Windows NT.
- Panel view touch-screens
- Integrated control including PLC functionalities
- Communication link to the scheduling system, dry end controller and roll stock inventory system.

#### Options

- Turnkey installation
- PLC
- Additional operator station

Wrap arm positions are adjusted based on speed to eliminate splice tear off.

#### Lineal Display

At each roll stand paper lineal required to complete orders for the current running grade is displayed indicating shortages if any. Time required to splice is also displayed.

**RollTek**

End of roll splicing is automatically initiated based on target final core / roll diameter and remaining lineal on roll.

The operator is alerted to a butt roll (below a plant specified diameter) being created at a particular roll stand. The operator then has the option of selecting a butt roll splice to eliminate the creation of the butt roll.

**Control Station<sup>IPS</sup>** is an integrated graphic workstation that serves as the operator interface and the link to the dry end controller. It provides remote access for diagnostics and provides reports on utilization and splice statistics for every order.

**Benefits for the Corrugating Plant**

- Higher machine speeds (5 - 10%)
- Reducing core and shear waste (5 - 10%) Reduces downtime due to missed splices and web breaks (up to 30%)
- Reduced partially consumed (butt) rolls
- Optimally manages the speed of the machine
- Provides operators with a user-friendly, "single window" for monitoring and controlling the wet end

**Technical Specifications**

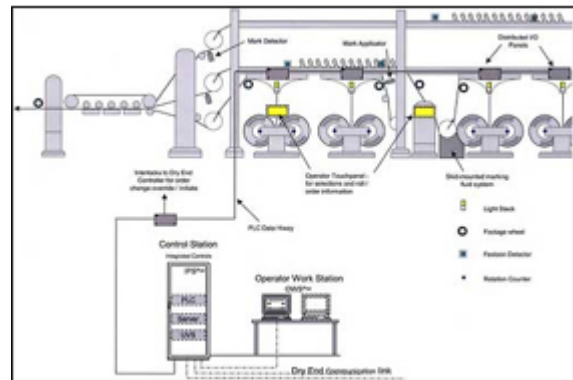
Allen Bradley PLC

NT Workstation

Lineal wheels

Proximity switches

Mark applicators and detectors



*Corrugator Quality Control System Layout*

**PCS Family (Production Control Systems)**

BridgeTek – bridge controls

SpliceTek – synchronized splicing

RollTek – diameter splicing

Qualitek UpTek – uptime maximizer

Steam and Condensate Systems

**QCS Family (Quality Control Systems)**

WarpTek – heat control system

WarpTekPlus – heat and moisture control system

SpeedTek – speed optimization

GlueTek – autometering gap control