

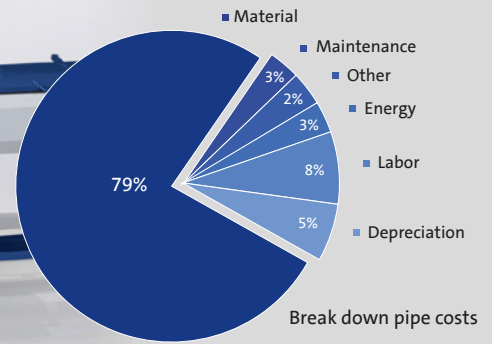
# Cost Saving Solutions

Comprising around 80% of the costs, material is by far the largest cost component in plastic pipe manufacturing. This fact makes it worthwhile to reduce overweight and/or increase  $\text{CaCO}_3$  content, while keeping the pipe to the required specifications. Rollepaal offers several solutions to control the quality of the pipe during production. These solutions are compatible with all existing brands of equipment.



**Rollepaal**

Pipe Extrusion Technology



# Cost Saving Solutions

- Rollepaal Direct Mixing (RDM)
- Rollepaal Direct Addition (RDA) - CaCO<sub>3</sub>
- Wall control units (scanners)
- Automatic Thermal Centring (ATC)
- Gravimetric systems (RGS)

## Rollepaal Direct Mixing (RDM)

The RDM is the next step in processing; PVC resin with the necessary additives can be mixed directly on top of the extruder, meaning no need for a mixing plant.

The RDM unit is mounted on the extruder for constant dosing and mixing of materials in an industrial environment. High amounts of CaCO<sub>3</sub> can also be added without the problem of segregation. This also saves on energy, as there is no need for hot mixing. Multiple dosing units for additives are mounted, providing optimal flexibility in production.

### Features and benefits of Rollepaal RDM systems

- ▶ Unique formulation for every application
- ▶ Lower carbon footprint
- ▶ Instant mixing
- ▶ Flexible production
- ▶ Low investment to begin PVC pipe production
- ▶ Quickly expand capacity
- ▶ No mixing plant required
- ▶ Lower energy consumption
- ▶ A complete solution

## Rollepaal Direct Addition (RDA)

The RDA ensures that the addition of material to the PVC powder will be done in an exact and consistent way. The RDA unit is mounted on the extruder for constant dosing of hard to handle materials in an industrial environment. High amounts of CaCO<sub>3</sub> can be added without the problem of segregation. This also saves energy, as it does not pass through the hot mixer. Multiple dosing units for additives can be mounted providing optimal flexibility in production.

### Features and benefits of Rollepaal RDA systems

- ▶ No segregation of CaCO<sub>3</sub> and PVC during transport
- ▶ Smoother pipe
- ▶ Blending energy savings
- ▶ Increased flexibility of extrusion line (basic formulation)
- ▶ Gravimetric addition of additives
- ▶ High output at low reject rates

## Wall control units (scanners)

Controlling the dimensions of the pipe during production is an important factor in keeping the pipe to the required specifications. Rollepaal scanners are able to measure pipe wall thickness and diameter\*. A range of scanners with various features is available, covering pipe sizes from 10 to 1600mm (1/2" - 60") diameter.

### Features and benefits of our scanners

- ▶ Continuous in-line measurement of wall thickness and diameter\*
- ▶ Minimum wall thickness control (overweight reduction)

\* Static scanners only

## Automatic Thermal Centring (ATC)

Rollepaal ATC makes it possible to control the distribution of the wall thickness. The ATC can adjust differences in the wall thickness and thus reduce production line start-up time, pipe overweight and material scrap.

## Rollepaal Gravimetric System (RGS)

The core component of the RGS is the weighing hopper. After being filled, the material flows from the weighing hopper into the extruder. The amount of material being fed into the extruder is determined by the loss in weight per unit of time. The extruder output is compared to a set reference value. A control system adjusts the extruder screw speed (or dosing speed) to bring the output to the desired level.

This control mechanism keeps the extruder output stable regardless of fluctuations in bulk density of the raw material.

Instead of the output control, the output signal can also be used to control of the haul-off speed, in which case the pipe weight per meter is kept at a constant level. If the line incorporates an ultrasonic scanner, the measured output is used for automatic calibration of the ultrasonic measurement. This eliminates time-consuming manual calibration procedures.

## Process Control System (PCS II)

The PCS II itself is a control system that can be combined with a scanner, ATC, RDA and RGS. The type of scanner, ATC and gravimetric system depends on the extrusion line.

## Features and benefits of our cost saving solutions

- Excellent return on investment
- Reduction of start-up time and scrap
- User-friendly interface for total extrusion line control
- Overweight reduction
- Can be used on existing equipment



# Rollepaal

Pipe Extrusion Technology

P.O. Box 21  
7700 AA Dedemsvaart  
The Netherlands  
Rollepaal 13  
7701 BR Dedemsvaart

Phone +31 (0)532 62 45 99  
info@rollepaal.com

www.rollepaal.com