

## SUCCESS STORY 95

### *Polymer Mixing for Plastic Gasket Extrusion*



Q

How did ILPEA Industries reduce batch cycle times and improve yields on a mixing process for plastic extrusion?

A

#### **Situation and background**

Prior to the extrusion process used in manufacturing gaskets, tubing and other custom products, polymers must be heated and mixed in a hopper to achieve specific material properties. Thermocouples are frequently employed to measure temperature during this operation. However, the heated plastic tends to accumulate on the end of the device and acts as an insulator. This affects measurement accuracy and delays determination of the process temperature setpoint. Additionally, thermocouples can easily break due to the thick, viscous plastic material.

#### **The winning solution**

- The Raytek® Marathon MM sensor was installed on each blender to provide a robust and reliable temperature measurement solution.
- Unlike thermocouples, the noncontact sensor was unaffected by product build-up, and thus provided a faster reading of temperature setpoint.
- Improved measurement accuracy helped to optimize process performance.

#### **Savings made**

- According to Rod Hackney, Electrical Engineering Supervisor at ILPEA Industries, faster, more accurate indication of temperature setpoint saved approximately 15 minutes per batch cycle, allowing blender capacity to increase by one batch per day. Units were installed on six blenders, increasing total capacity by six

#### KEY FACTS

**Industry**  
Plastics

**Customer's End Product**  
Custom Plastic Extrusions

**Process Temperatures**  
204 to 260°C/400 to 500°F

**Distance to Object**  
1.4 m/54 in

#### PRODUCT AND BENEFITS

##### **Marathon MM Sensor**



- Wide temperature measurement range for batch and continuous process applications
- Integrated through-the-lens and either video or laser sighting
- Fast, easy, accurate focusing
- Stainless steel housing
- Easy-to-use interface

batches.