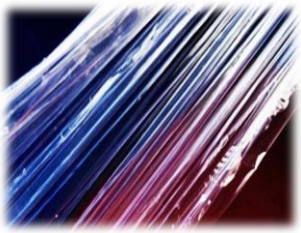
Electro Optical Components, Inc.
5464 Skylane Boulevard, Suite D, Santa Rosa, CA 95403
Toll Free: 855-EOC-6300
www.eoc-inc.com | info@eoc-inc.com

Click to go to Product Selector

LED Microsensor NT

PLASTIC THICKNESS MEASUREMENT

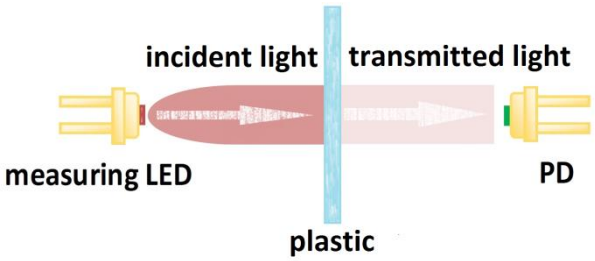


Due to constant increase of **plastic production** and rise of quality requirements it becomes inevitable to use reliable and efficient quality control systems. Mid-infrared light-emitting diodes and photodiodes manufactured by **LED Microsensor NT, LLC** have already found their usefulness in a vast area of applications and have much to offer to plastic manufacturers.

Thickness measurement is based on the Beer's law which states that intensity of transmitted light exponentially depends on thickness of material:

$$I(l) = I_0 e^{-k_\lambda l},$$

Where I_0 and I are the intensity of the incident light and the transmitted light, respectively; k_λ – the absorption coefficient, l – the material thickness.



Using mid-infrared LED-PD based solutions provides certain **advantages** for this sort of application:

- Compact size of the LED chip – 0.35x0.35 mm
- Low power consumption (<1 mW)
- Short response time – 10-50 ns
- Modulation ranges of up to 100 MHz can be achieved
- Operation temperatures up to +150°C
- Lifetime 80 000 hours

01 PET
- ✓ PE films
- ✓ Containers (bottles, jars, pots, cans, glasses etc.)

02 PE-HD
- ✓ Canalisation, drainage pipes

04 PE-LD
- ✓ PE electrical insulation
- ✓ Cases for devices

03 PVC
- ✓ PVC fibers
- ✓ PVC electrical insulation
- ✓ Doors and windows

05 PP
- ✓ Details for automotive production
- ✓ Packaging
- ✓ Water supply system pipes

06 PS
- ✓ PS Heat insulation
- ✓ Containers and films for food industry