



## Conductive Inks to Build Force Sensitive Sensors

### LOCTITE ECI 7004HR E&C and LOCTITE ECI 7004LR E&C

Force sensitive resistors (FSRs), which are part of the growing market for flexible printed sensors, are providing unique capability for numerous applications in the medical, consumer, industrial, commercial and entertainment sectors. FSRs facilitate touch and detection functions for sensors that respond with a decrease in resistance when increased force is applied to the sensor surface. Henkel's portfolio of conductive and non-conductive force sensitive inks and spacer materials provide a total solution for FSR applications and can be custom-blended to adjust for desired resistance and sensitivity. Highly stable and reliable, Henkel's FSR materials ensure exceptional product function and long lifecycles.

#### Key Application

- Medical
- Consumer electronics
- Industrial
- Musical
- Commercial





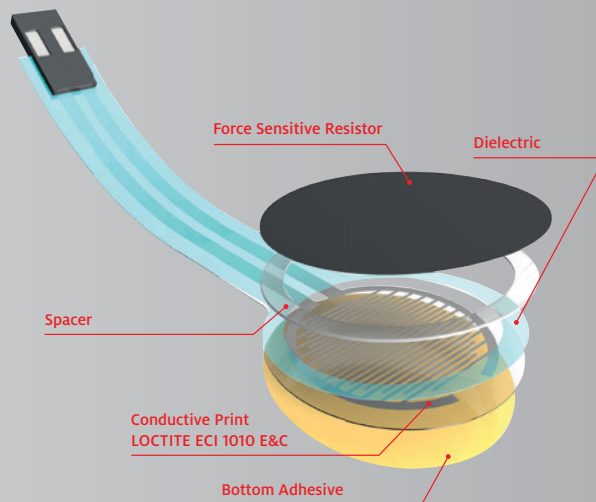
Henkel offers 2 component force sensing inks which can be blended in various ratios to obtain different initial resistance and sensitivity profiles which remain stable in use phase.

### Key Benefits

Blending LOCTITE NCI 7002 E&C with LOCTITE ECI 7004HR E&C in different ratios enables manufacturing of force sensitive inks with wide range of initial resistance levels and sensitivity profiles.

- Wide dynamic range
- Tunable sensitivity profiles
- Excellent consistency
- > 10kΩ resistors, optimized blending profile to minimize effect of processing errors
- Suitable for screenprint applications
- Excellent screen residence time
- Allows low temperature drying
- Good adhesion to treated PET

### FORCE SENSITIVE SENSOR



#### Blend Curve LOCTITE ECI 7004HR E&C with LOCTITE NCI 7002 E&C

ECI 7004HR	NCI 7002 (%)	25μm DRY COATING THICKNESS (ohms/sq)
10	90	$1.0 \times 10^9$
20	80	$1.0 \times 10^9$
30	70	$1.0 \times 10^9$
40	60	400,000
50	50	79,000
60	40	37,500
70	30	25,000
80	20	10,500
90	10	9,000
100	0	2,700

#### Blend Curve LOCTITE ECI 7004LR E&C with LOCTITE NCI 7002 E&C

ECI 7004LR	NCI 7002 (%)	25μm DRY COATING THICKNESS (ohms/sq)
10	90	$1.0 \times 10^9$
20	80	35,000
25	75	4,500
30	70	2,160
40	60	675
50	50	290
60	40	170
70	30	105
80	20	70
90	10	50
100	0	35

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