



Solar Technologies

LCR™

Light Capturing Ribbon

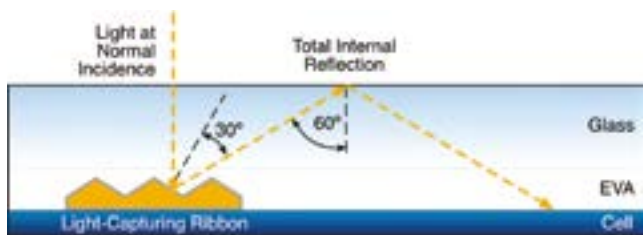
LCR™ is a high efficiency grooved solar cell interconnect wire that replaces traditional flat ribbon used to connect solar cells together within a module. It was developed to increase the efficiency of a solar module by reflecting more light back onto the surface of the cell. This innovative grooved interconnect wire steers the reflected light back to the glass/air interface allowing total internal reflection back onto the cell surface. Up to 80% of the incoming light that strikes the LCR™ ribbon is recovered significantly higher than the 5% recovery of traditional solar cell tabbing and interconnect wire.

BENEFITS

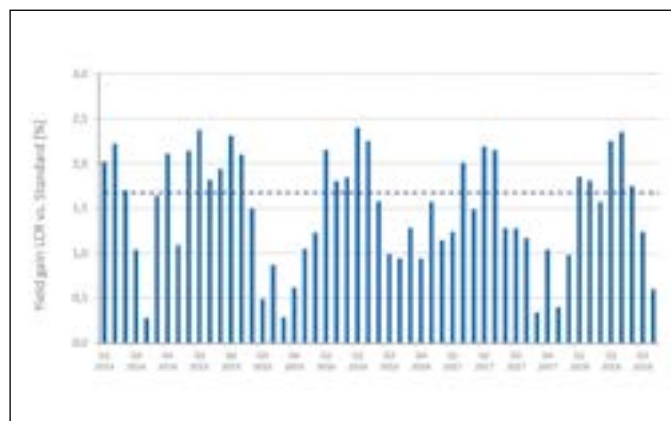
- Up to 3% increase in solar module power output
- Silver plated for maximum reflectivity and conductivity
- Engineered lower yield strength copper wire to prevent cell damage during stringing process
- Now also available in Aluminum
- Compatible with current manufacturing processes with minimal retooling
- Application Engineers design LCR products to satisfy each clients' unique needs and specifications
- Improved Aesthetics – uniformly dark cells for improved appearance
- Low Coefficient of thermal expansion (low yield) for minimal internal stress (day/night effect) prevents cell breakage during extreme temperature changes and variations.
- Applicable for Heterojunction Cell Technology
- Designed to use with conductive adhesive solutions
- Lead free / RoHS compliant

Light Capturing Ribbon Specification	
Base material	CDA 110 / ETP-1 CDA 101 / CDA 102 / OF-1 Copper
Dimension	Width: 0.600-1.500 Thickness Equivalent: 0.100-0.225 mm
Reflectivity	= > 65%
Coating alloy	Ag100
Mechanical Properties	$R_m: < 270 \text{ [N/mm}^2\text{]}$
	$R_{p0.2}: 90-120 \text{ [N/mm}^2\text{]}$
	$A = > 20 \text{ [%]}$
Spool	10S
	H20
	K125
Customized specifications available upon request	

INTERNAL REFLECTION



Schematic drawing of light hitting the Light-Capturing Ribbon, being reflected back onto the cell.



Yield increase trough LCR™ in long time field test. (Ref.: W. Muehleisen et al.: EPJ Photovoltaics 7, 70701, 2016)

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