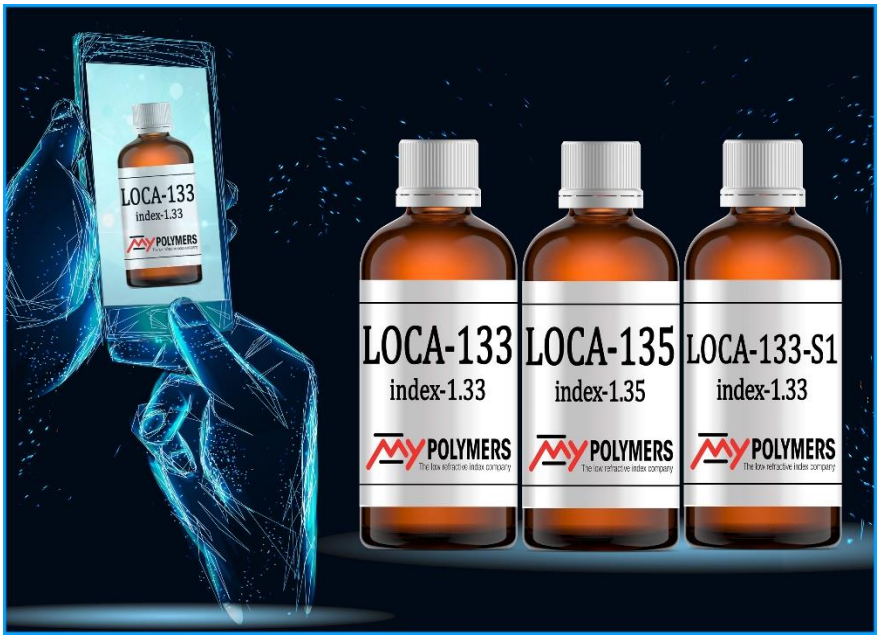
MY POLYMERS
The low refractive index company

Lamination Adhesives for Electronic Displays

LOCA Adhesives: Lamination Adhesives with Low Refractive Index and strong adhesion

Our LOCA adhesives are distinguished by their unique combination of high bond strength AND low refractive index. The LOCA products exhibit strong adhesion to various substrates, including glass, PMMA, PET, PC, and metals.

These adhesives remain tacky even after full curing, and therefore they are intended to be used as lamination adhesives, between optical films and other flat surfaces. The low index enables bonding between layers while keeping the light from leaking between adjacent layers. For example, it is possible to attach a diffuser film to a light guide without degrading the light guiding capability.



The adhesion of LOCA-133 (index=1.33) is 25-50 times stronger compared to our previous generation of adhesives with the same 1.33 index.

MY Polymers believes this breakthrough in the bonding strength of an optical adhesive with an index of 1.33 opens various opportunities, especially in the electronic display market.

LOCA-135, with an index of 1.35, is significantly cheaper, compared to LOCA-133. LOCA-133-S1 is a 100% solids (no solvents at all) version of LOCA-133.

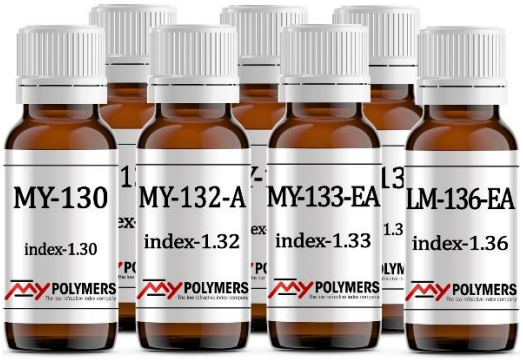
Product	% solids	RI @ 589nm	Viscosity @25°C CPS	T-peel, PET/PET @25°C g/cm	Lap Shear PET/Glass, @25°C g/cm²
LOCA-133	35	1.337	2000	700	2800
LOCA-135	50	1.357	2000	440	2800
LOCA-133-S1	100	1.335	15000@90C	220	na

LOCA-133 combines low index of 1.33 AND strong adhesion to various substrates.
LOCA-133-S1 is a 100% solids version of LOCA-133.
LOCA-135 has an index of 1.35. It is a lower cost version of LOCA-133.

These products have multiple potential applications in electronic displays, in optical touch screens, and in lighting systems (see details below). LOCA-133 and LOCA-133 contain solvents, which must be evacuated before lamination. Lamination is done preferably by a combination of pressure and heat. LOCA-131-S must be heated to liquefy it. It is applied when liquid, and after cooling it solidifies. This is followed by lamination, which is done in the same way as for LOCA-133 and LOCA-135.

The MY and LM Product lines: Lamination Adhesives with Low Refractive Index and 100% solids.
These products have Refractive index as low as 1.30, and 100% solids content (meaning No solvents). The adhesion of the lowest index members of these product groups is significantly lower, compared to the LOCA products. However, LM-136-EA (index=1.36) has an adhesion of 235 gr/cm, which is quite close to the LOCA product line; And LM-1415 (index=1415) has an adhesion of 600 gr/cm, nearly identical to LOCA-133 Obviously, the great advantage of these products, compared to the LOCA products, is that they have no solvents and they are much easier to use as lamination adhesives, because the viscosity before lamination is much lower (the viscosity of LOCA-133 right before lamination is very high, and the material seems like a sticky solid surface).

Product	RI @ 950nm	Adhesion g/cm²	Elastic Modulus MPa	Viscosity CPS	Tensile MPa	Elongation at Break %
MY-130	1.303	na	<1	120	<0.2	<10
MY-132-A	1.322	7	0.4	2600	0.3	80
MY-133-EA	1.333	27	3.6	2300	1.0	45
MY-136	1.360	110	20	750	4.7	83
LM-136-EA	1.363	225	17	1700	4.0	80
LM-1415	1.408	600	17	1500	3.0	90



Applications for LOCA and MY and LM product lines:
Our LOCA and MY products can be used advantageously in the following applications: Constructing of improved, integrated Back-Light Units (BLUs); Light based Touchscreens; Auto-Stereoscopic 3D displays; Virtual reality headsets; Light-Guides for lighting systems; and nanotech transparent conductors.
The low index enables Total Internal Reflection of light that would otherwise leak out of the light-guiding layer. This enables bonding of an FTIR (Frustrated Total Internal Reflection) Touchscreen to the LCD, or the integration of a backlight unit light-guide with the adjacent reflector or optical film.
In the construction of nanotech transparent conducting films, the low index enables better extraction of light; and in autostereoscopic displays, the bigger index gap enables better separation between the 2 stereoscopic images.
The low index MY products can be used for the construction of a Low Index
Grid for OLED displays. The low index grid couples the light out of an OLED array,
resulting in improved light extraction.

About MY Polymers Ltd.
Distinguished by its total focus on low refractive index materials, ***MY Polymers*** *is a leader in this field.*
MY Polymers *has been active in the field of Low Refractive Index Optical Coatings Adhesives and Polymers since 2004. The company develops, produces, and sells primary coatings for optical fibers, recoating materials, optical adhesives, bio-photonic materials, anti-reflective coatings, and various other low index polymers, coatings and adhesives.*
MY Polymers *is ISO certified. We serve the global Photonics and Electronic Display industries, with customers in North America, Asia and Europe.*

MY POLYMERS
The low refractive index company
info@mypolymers.com
www.mypolymers.com
Tel: 972-8-9350101
3 Golda Meir Str.,
Weizmann Science Park
Ness Ziona 7403648, Israel