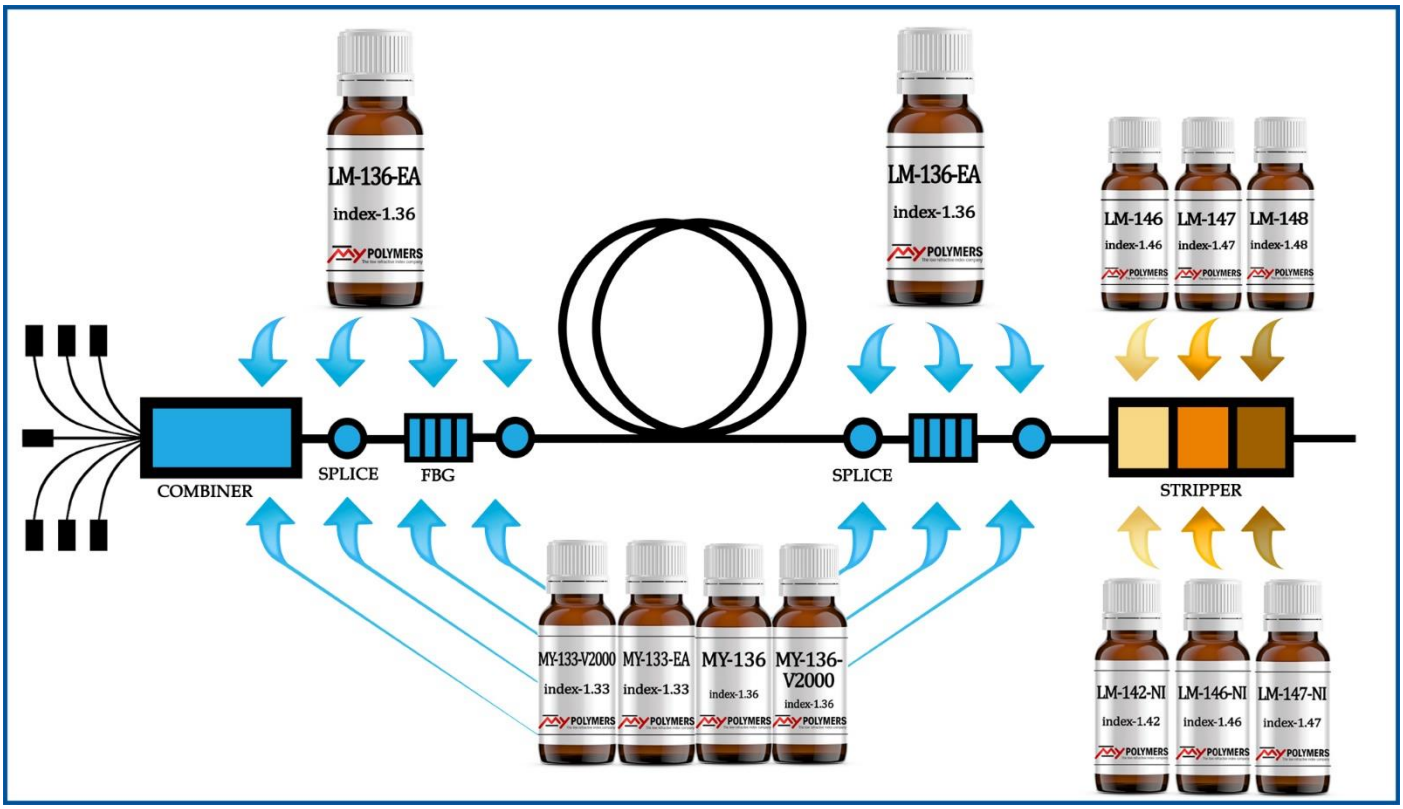
MY POLYMERS
The low refractive index company

Re-Coating Materials

Dedicated Re-Coating Materials are replacing Primary Coatings

The contradicting requirements between Recoating Materials and Primary Coatings prompted MY Polymers to develop Dedicated Re-Coating Materials. (See “Breaking the Shackles of Primary Coatings”, back page). These materials have been optimized for Re-Coating, and they are replacing Primary Coatings in recoating applications. Components and splices that require Re-Coating are shown in the drawing below. These include the pump power combiner, FBG, splices, couplers, etc. Leading Re-Coating materials with matching 1.36 index include LM-136-EA, MY-136, and MY-136-V2000. These products have High Flexibility, Strong Adhesion, and break-through performance under thermal cycling, thermal shock and heat-damp testing.



For cladding Power strippers, customers select the higher index, Low Modulus (meaning High Flexibility) LM-14X. A growing number of customers are adopting the Cascaded CPS design, using a cascade of re-coating segments with gradually higher index. This structure enables a gradual dissipation of heat, resulting in dramatically improved reliability.

The –NI in products such as LM-142-NI, denotes products that are less sensitive to oxygen inhibition, enabling to get good surface curing without an inert atmosphere. The –NI products were optimized for UV LED curing.

The leading Re-Coating Materials with an index of 1.36

These materials are intended for re-coating of pump power combiners, splices, FBG, couplers, etc.
The following table includes the major properties of the leading products in this category.

Product	RI @ 950nm	Adhesion g/cm	Elastic Mod. MPa	Viscosity CPS	Tensile MPa	Elong. @ Break %	Shelf Life, months
LM-136-EA	1.363	225	17	1700	4.0	80	9
MY-136	1.360	110	20	750	4.7	45	12
MY-136-V2000	1.363	50	53	1700	6.0	50	12

Some customers use lower index re-coating materials with index of 1.33 or 1.32. Some popular materials are shown in the following table:

Product	RI @ 950nm	Adhesion g/cm	Elastic Mod. MPa	Viscosity CPS	Tensile MPa	Elong. @ Break %	Shelf Life, months
MY-133-V2000	1.329	9	5.2	2900	2.4	60	12
MY-133-EA	1.333	27	3.6	2300	1.0	45	6
MY-132-A	1.322	7	0.4	2600	0.3	80	12

The Low Modulus LM products for Re-Coating of Cladding Power Strippers

A different, specialized application, is recoating of cladding light strippers. The new trend of using Cascaded strippers, requires a set of materials with different refractive index. The combination of High Flexibility and high bond strength, provides dramatic improvement in reliability under thermal cycling and thermal shock. The following table summarizes the important properties of some common products used for this application.

Product	RI @ 950nm	Adhesion g/cm	Elastic Mod. MPa	Viscosity CPS	Tensile MPa	Elong. @ Break %	Shelf Life, months
LM-146	1.452	1900	35	1400	7	160	12
LM-147	1.462	1900	31	2150	5	170	12
LM-148	1.472	500	42	1300	6.7	160	12
LM-142-NI	1.417	1000	28	3200	3	110	12
LM-146-NI	1.454	1100	22	1500	6	95	12

Dedicated Re-Coating Materials vs. Primary Coatings: Unresolvable Contradictions

It used to be a common practice to use the original primary coating as a re-coating material. However, there are major contradictions between these types of materials. (See below “Breaking the Shackles of Primary Coatings”).

Breaking the Shackles of Primary Coatings

Dedicated Re-Coating Materials are Optimized for the Re-Coating task

Property	Re-Coating Material	Primary Coating
Adhesion	Highest, for Reliability	Limited, for Stripping
Flexibility	Highest, for Thermal endurance	Limited, for Robustness
Oxygen Sensitivity	Better be minimized	Not Relevant (N2 is there)
LED compatibility	Requested	Not requested

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, 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 the North America, Asia and Europe.*

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