



Sefar Printing Solutions offers a wide range of emulsion products for use in applications related to screen printing electronics. The selection of emulsions includes pure photopolymers, dual cure and pure diazo chemistries. The emulsion characteristics can be selected based on process requirements including fine line resolution, heavy emulsion build-up, harsh solvent resistance and paste abrasive resistance. Most of these emulsion products also allow for a long and stable shelf life in the event that a customer prefers to purchase a precoated screen that they intend to image themselves at a later date.

Emulsion - Emulsion Data

Premier Dual Cure Thick Film Screens	
e-11:	Ultra-fine line resolution capabilities (30 um line and spaces) with razor sharp edge definition. e-11 has excellent gasketing characteristics as well as superior solvent resistance. High sensitivity to ultraviolet (UV) light means quick exposures. Use e-11 for the most demanding microelectronic printing applications, especially when resolution and edge definition are critical.
MM-B:	Ultra-fine resolution capabilities with crisp edge definition. The MM-B emulsion has almost unlimited resolution potential and a superior resistance to chemical solvents and abrasive pastes. The high percentage of solvents and high cross-linking energy requirements require a longer exposure time during image processing. Exhibits its best performance when imaged by Sefar's trained technicians.
e-80:	e-80 has outstanding resistance to cleaning solvents and ink vehicles. Combine this with its excellent gasketing and printing characteristics and e-80 becomes a great choice for applications which involve printing or cleaning with aggressive materials.
e-95:	The clear base of e-95 is specially formulated to provide easy print and deep UV penetration during exposure. Very user-friendly with respect to processing, exposes in a fraction of the time of conventional PVA-PVOH type emulsions, with quick and easy development washout. Excellent for heavy deposits of solder paste or adhesives, e-95 can be specified up to 30 mils thick.
DCE9:	With a longer exposure time, DCE9 demonstrates more of the properties of the classic Diazo emulsion formulations. A direct emulsion specifically formulated for harsher solvents such as NMP. DCE9 provides an excellent option as an emulsion choice in aggressive chemical environments. Resolution features are the most favorable in thinner emulsion build-ups, but this emulsion gaskets well and is easily handled by a customer exposing the screen in-house.

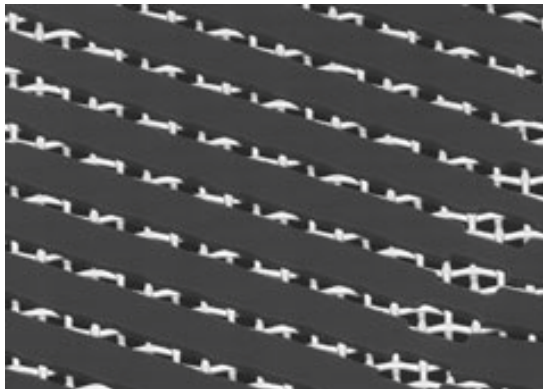


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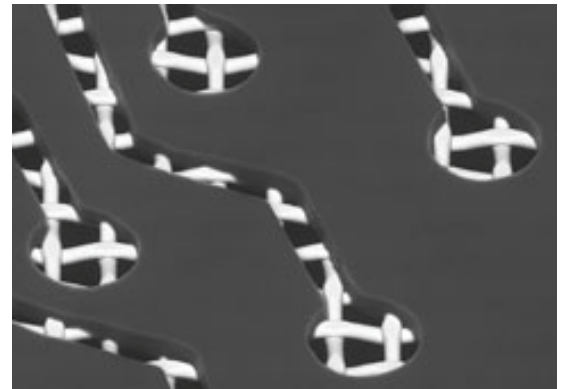
Emulsion: Emulsion Data

High Quality PVA/Diazo Emulsions	
ES:	ES offers sharp edge definition with exceptional solvent and very good abrasion resistance. Easy processing.
EG:	EG displays good gasketing and solvent resistance along with easy processing characteristics.
EH:	EH is specially formulated for use with aqueous-based inks and water cleaning applications.

Pure Photopolymers	
PEF2:	A direct/indirect emulsion application or film based emulsion system, PEF2 combines precision emulsion thickness control with excellent substrate gasketing properties and high resolution imaging capabilities. An ideal choice for presensitized screens, this emulsion has a rapid exposure time and is easy for the customer to washout. Best suited for applications with greater than 0.0003" emulsion over mesh.
PE:	A direct emulsion product with all of the same characteristics of PEF2, but ideally suited for very thin emulsion build-ups of equal to or less than 0.0003" EOM. Pure photopolymers are softer and more conforming to gasket multi-layer thick film applications in a non-aggressive environment.



400.0007" calendered mesh, 0.0006" emulsion, imaged with 50 micron lines at 100x



400.0007" calendered mesh, 0.0006" emulsion, imaged with 40 micron lines & 100 micron vias at 220x

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Emulsion: Emulsion Data

Sefar Emulsion Cross-Reference Chart										
Emulsion	e-11	MM-B	e-80	e-95	DCE9	ES	EG	EH	PEF2	PE
Toluene	1	1	1	1	1	2	2	1	1	1
Xylene	1	1	1	1	1	1	1	1	1	1
NMP	4	3	3	4	2	4	4	4	4	4
Distilled Water	3	1	2	3	1	4	4	2	3	3
Butyl Carbitol	1	1	1	1	1	2	1	1	1	1
Butyl Cellosolve	1	1	1	1	1	1	1	1	1	1
Butyl Carbitol Acetate	1	1	1	1	1	2	2	1	1	1
Isopropanol	1	1	1	1	1	1	1	1	2	2
1,1,1 Trichloroethane	2	1	1	1	1	2	2	2	2	2
Terpineol	1	1	1	1	1	1	1	2	2	2
Methyl Ethyl Keytone	3	2	1	3	2	1	2	2	2	2
Acetone	2	1	1	2	1	2	1	1	1	1
Methanol	1	1	2	3	1	4	3	4	3	3
Rosstech 106 FE	1	1	1	1	1	1	1	1	1	1
Rosstech 133	1	1	1	1	1	1	1	1	1	1
Axarel 2000	1	1	1	1	1	1	1	1	1	1

**Softness measured on the SWARD-ZEIDLER® relative hardness scale*

Legend: 1 = Safe; 2 = Reasonably safe; 3 = Use with caution; 4 = Not Compatible