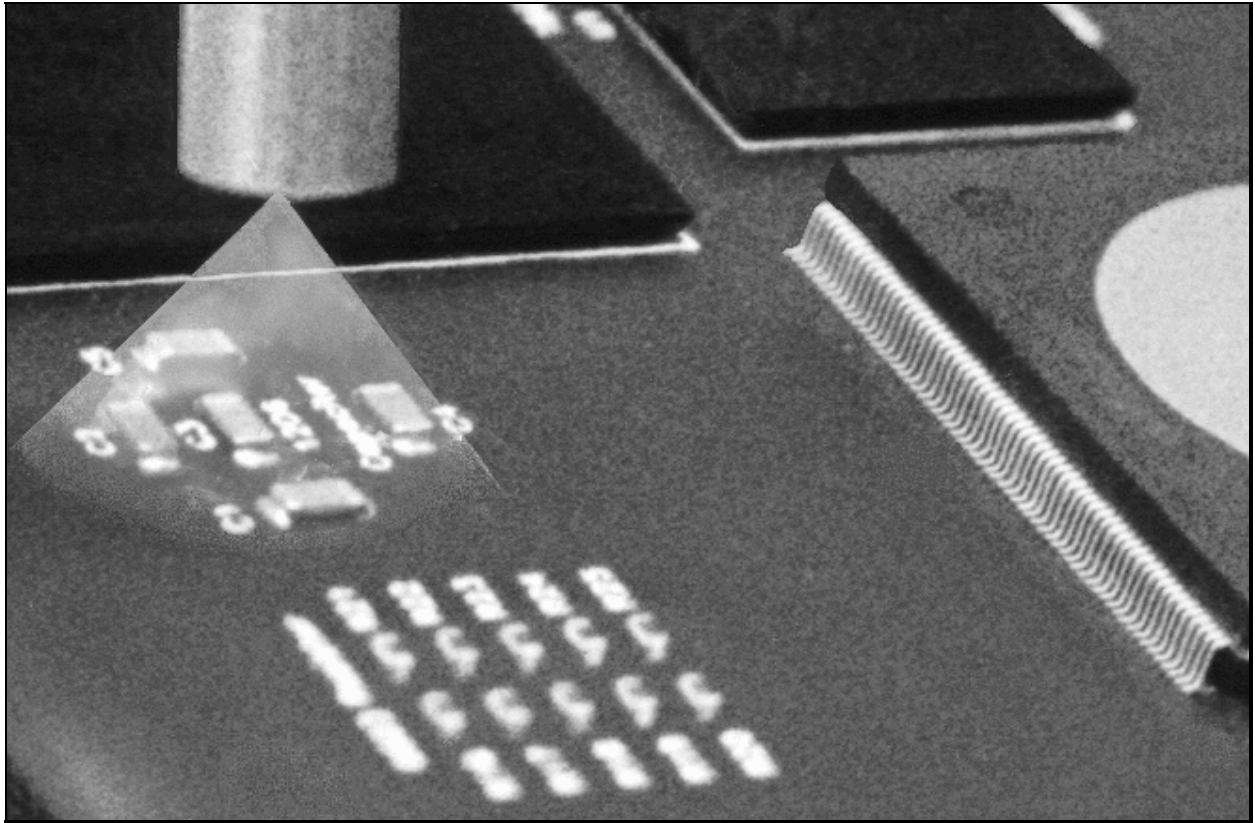


HIGH DIELECTRIC STRENGTH EPOXY CONFORMAL COATINGS.



EMCAST™ 1900 SERIES

The EMCAST 1900 Series of UV curable epoxies represent a new generation of conformal coatings; all are 100% solids, contain no solvents and are curable with long wave ultra violet light. The use of these systems can result in boards and components coated and cured in a matter of seconds to a few minutes. Extended room temperature or oven cure times are no longer necessary. All EMCAST 1900 series products have no odor, exhibit minimal shrinkage and always cure to a tack free surface without special cure conditions such as an inert atmosphere.

The EMCAST 1900 series products have a wide range of properties and can be used to fit into many existing coating applications. EMCAST 1900, 1900LV, 1900VLV, 1902, and 1904 are single component products, which cure with long wave ultraviolet light to tough impervious coatings. For those applications that have “shadowed” or “under-creep” areas, the EMCAST 1910 and 1912 products are UV and/or thermally cured systems. EMCAST 1910 is a two-component material which when fully cured will yield properties similar to those of EMCAST 1902. The two-component format of 1910 allows it to be UV, and thermally cured at temperatures as low as 35°C. EMCAST 1912 and 1912LV also have dual cure activity and are single component systems that are very soft and resilient, this provides for low stress on sensitive components and assemblies once fully cured.

Product Description

- EMCAST 1900** The original UV cure epoxy conformal coating. A single component material that cures to a tough and resilient coating with outstanding all around properties, excellent moisture, chemical, solvent and abrasion resistance. Film builds to 5-7 mils are possible.
- EMCAST 1900LV** A lower viscosity version of 1900. For use where fast flow and lower film build is desired.
- EMCAST 1900VLV** The lowest viscosity version of 1900. For use where maximum flow and minimum film build is desired, easily sprayed.
- EMCAST 1902** Higher Tg and therefore harder than the 1900 group. Where even higher temperature, chemical or solvent resistance is required.
- EMCAST 1904** Lower Tg and softer than 1900, for use over sensitive components or in applications where re-work is likely.
- EMCAST 1910** A two-component system, which can be cured any of four ways, by UV, by heat, at warm room temperatures or any combination there of. Once mixed, the catalyzed material will cure in warm room temperatures as low as 30-35°C. Use where boards have blind and shadowed areas, such as under components and are sensitive to higher cure temperatures.
- EMCAST 1912** Single component, UV and/or thermally curable. Soft and resilient, an excellent buffer coating over components where mechanical abuse is a factor. Film builds of 15 to 30 mils.
- EMCAST 1912LV** A low viscosity version of 1912. For use where a light buffer coat is necessary over stress sensitive components prior to potting or over-molding.

Uncured Properties:

Product	1900	1900LV	1900VLV	1902	1904	1910	1912	1912LV
# of components	Single	Single	Single	Single	Single	Two	Single	Single
Cure method	UV	UV	UV	UV	UV	UV/heat	UV/heat	UV/heat
Viscosity – cps	1000	500	200	250	1200	250	12,000	900
Flash Pt ①	350	340	320	360	350	340	300	300
Color	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
% Solids	100	100	100	100	100	100	100	100
Pot life 25°C	1 year	1 year	1 year	1 year	1 year	②	6 months	6 months

Cured Properties:

Product	1900	1900LV	1900VLV	1902	1904	1910	1912	1912LV
Hardness – REX D	83	80	78	86	81	87	A65	A65
Dielectric strength ③	5200	5000	5000	4800	5000	4800	4500	4500
Volume resistivity	8x10 ¹⁵	6x10 ¹⁵	6x10 ¹⁵	8x10 ¹⁵	5x10 ¹⁵	5x10 ¹⁵	8x10 ¹⁵	8x10 ¹⁵
Tg°C	55	51	40	86	51	95	-15	-15
Dielectric constant	3.1	3.1	3.1	2.3	3.1	2.2	2.7	2.7
Fungus Resistance	④	④	④	④	④	④	④	④
Refractive Index	1.55	1.55	1.55	1.49	1.55	1.48	1.5	1.5
Secondary Cure	No	No	No	No	No	Yes	Yes	Yes
M.V.T.R.⑤	3.4	3.6	3.8	3.0	3.5	2.9	12.0	12.0
Elongation⑥	10	12	13	6.0	14	6.0	100	100

①°F P.C.C. ② Two catalyst versions are available - Reg. & Fast cure (F.C.)

③ASTM D115 1 mil

④ Non-Nutrient

⑤ moisture vapor transmissions rate – gram/100in²/mil/24hrs. ⑥ At break - %

All data given in the bulletin is based on our own research and the research of others. They are believed to be accurate, however no guarantee of accuracy is made. Products described are sold without warranty, except conformity to specifications and on condition that the purchaser shall determine suitability for their particular purpose.