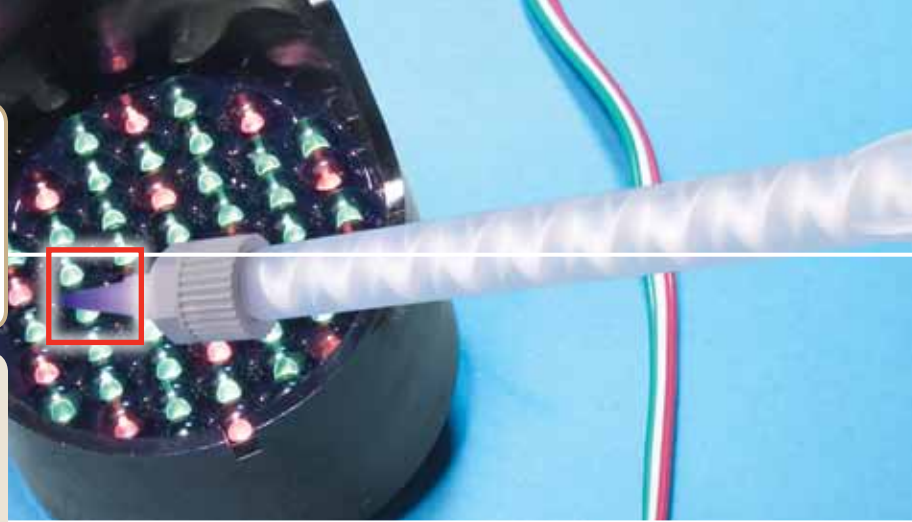


Your Source for
**POTTING & ENCAPSULATING
 EPOXIES &
 POLYURETHANES**



- Provides tough, long-lasting anti-skid surfaces for added safety
- Can be easily applied using Loctite® phenolic or bristle rollers to concrete, metal or wood surfaces
- Stands up to heavy traffic and harsh environments
- For maximum adhesion, use Loctite® Big Foot® primers

[Epoxies & Polyurethanes]

Loctite® Hysol® potting and encapsulating compounds are two-part epoxy and polyurethane systems formulated to offer a wide range of performance characteristics matched to specific application requirements. Any epoxy resin can be combined with any epoxy hardener to create a mixed system. The same applies to the polyurethane resins and hardeners.

[Loctite® Hysol® Epoxies Product Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	PACKAGE WEIGHT	KEY FEATURES
LOCTITE® HYSOL® EPOXIES RESINS	3140™ 39944 39945*	1 gallon pail 5 gallon pail	12 lbs. 65 lb.	General-Purpose
	3141™ 39947 39948*	1 gallon pail 5 gallon pail	12 lbs. 63 lbs.	High Temperature
	3142™ 39950	1 gallon pail	16 lbs.	Thermally Conductive
	3145™ 40512 40511*	1 gallon pail 5 gallon pail	13 lbs. 65 lbs.	Flame Retardant
LOCTITE® HYSOL® EPOXIES HARDENERS	3160™ 39958*	5 gallon pail	40 lbs.	Glossy Surface Finish
	3162™ 39960 39962*	1 quart can 5 gallon pail	1.8 lbs. 36 lbs.	Fast Cure
	3163™ 39964 39966*	1 quart can 5 gallon pail	1.7 lbs. 38 lbs.	Excellent Adhesion
	3164™ 39969 39970*	1 gallon pail 5 gallon pail	7 lbs. 40 lbs.	General-Purpose
	3165™ 39395 39974*	1 quart can 5 gallon pail	1.7 lbs. 35 lbs.	Low Shrinkage

[Loctite® Hysol® Epoxy Kits Properties Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	WORK LIFE	HARDNESS (SHORE)	AGENCY APPROVALS	KEY FEATURES
LOCTITE® HYSOL® EPOXY KITS E-60NC™	29324	50 ml dual cartridge	Black	60 min.	85	CFIA	Electrically noncorrosive, low viscosity
	29325	200 ml dual cartridge					
	29326	400 ml dual cartridge					
LOCTITE® HYSOL® EPOXY KITS E-30CL™	29329	50 ml dual cartridge	Clear	30 min.	85	N/A	Medium fixture, chemical resistant
	29330	200 ml dual cartridge					
	29331	400 ml dual cartridge					

[Loctite® Hysol® Polyurethanes Product Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	PACKAGE WEIGHT	KEY FEATURES
LOCTITE® HYSOL® POLYURETHANES RESINS	3173™ 39984 39985 39986*	1 quart can 1 gallon pail 5 gallon pail	2.5 lbs. 10 lbs. 50 lbs.	General-Purpose
	3182™ 39995 39996* 39997*	1 gallon pail 5 gallon pail 55 gallon pail	12 lbs. 62 lbs. 625 lbs.	Fast Cure
LOCTITE® HYSOL® POLYURETHANES HARDENERS	3183™ 39998 39999*	1 gallon pail 5 gallon pail	7.5 lbs. 37 lbs.	General-Purpose
	3184™ 39398 39397*	1 gallon pail 5 gallon pail	12 lbs. 625 lbs.	Flame Retardant

**LOCTITE® DURAPUMP™
METER MIX SYSTEMS**

Loctite® DuraPump™ Meter Mix Systems offer superior operating performance and durability for a wide range of two-component adhesive chemistries (including MMA**) up to 10:1 ratios and is available in two different models – programmable and pneumatic. For more product and technical information and other Loctite® Meter Mix systems, please go to [page 183](#).

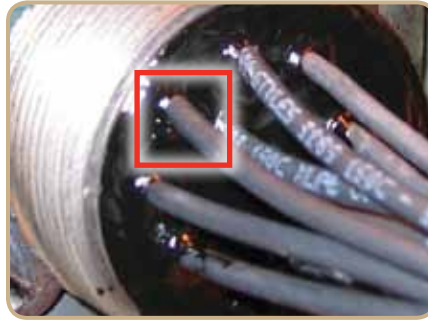
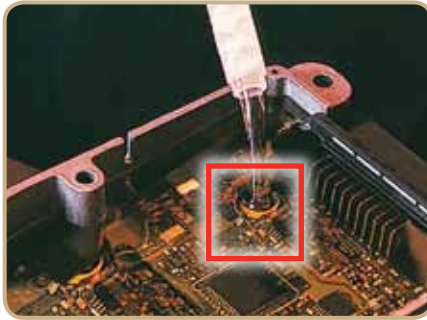


ADDITIONAL
RESOURCES

* Made-to-order items. ** Pneumatic only

[Loctite® Hysol® Polyurethanes Kits Properties Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	WORK LIFE	HARDNESS (SHORE)	AGENCY APPROVALS	KEY FEATURES
LOCTITE® HYSOL® POLYURETHANES KITS 3364™ NEW	1166733	50 ml dual cartridge	Black	45 sec.	85	UL 94V-0	Fast cure, 1:1 mix ratio, black



[Applications]

- Electronic Connectors and Assemblies
- Controls

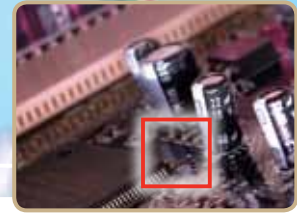
- Lighting
- LED
- Power

- Solar
- Signs and Displays
- Wire and Cable

[Loctite® Hysol® Polyurethane Systems Properties Chart]

SYSTEM CHARACTERISTICS		LOCTITE® HYSOL® POLYURETHANE SYSTEMS			
		3173™/3182™	3173™/3183™	3173™/3184™	
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	75	75	75
		Hardener	30,000	800	14,000
		Mixed	5,500	450	2,250
	WORKING TIME	At 73°F (23°C)	<7 minutes @ 300 g	20 to 40 minutes @ 105 g	150 minutes @ 300 g
	GEL TIME	At 73°F (23°C)	14 minutes @ 300 g	40 to 70 minutes @ 105 g	150 minutes @ 300 g
	CURE CYCLE	Normal 73°F (23°C)	90 minutes	24 hours	24 hours
		Alternate 185°F (85°C)	30 minutes	1 to 3 hours	1 to 3 hours
MIX RATIO	By Weight (Resin : Hardener)	13:87	30:70	15:85	
	By Volume (Resin : Hardener)	1:5.2	1:3	1:4.8	
COLOR	Resin	Dark Brown	Clear Brown	Clear Brown	
	Hardener	Black	Opaque Black	Opaque White	
	Mixed	Black	Opaque Black	Opaque White	
SPECIFIC GRAVITY	Resin	1.23	1.23	1.23	
	Hardener	1.60	0.96	1.45	
	Mixed	1.55	1.06	1.40	
TYPICAL CURED PROPERTIES	HARDNESS, SHORE A	75	70	80	
	HARDNESS, SHORE OO	N/A	N/A	N/A	
	GLASS TRANSITION TEMPERATURE/Tg (°C)	-10	-16	-15	
	CTE ABOVE Tg (M/MM°C)	128x10e-6	190x10e-6	151x10e-6	
TYPICAL CURED PROPERTIES	DIELECTRIC CONSTANT	0.1 kHz	4.68	5.92	4.51
		1.0 kHz	4.02	4.36	4.29
		10.0 kHz	3.76	3.65	3.94
		100.0 kHz	3.63	3.31	3.56
	DISSIPATION FACTOR	0.1 kHz	0.13	0.22	0.02
		1.00 kHz	0.07	0.17	0.04
		10.0 kHz	0.04	0.10	0.06
		100.0 kHz	0.02	0.05	0.07
	INSULATION RESISTANCE (OHMS)	2.5x10e+13	1.1x10e+11	1.1x10e+12	
	VOLUME RESISTIVITY (OHMS/CM)	1.5x10e+15	6.83x10e+12	6.61x10e+13	
DIELECTRIC STRENGTH (VOLTS/MIL)	370	375	370		
FLAMMABILITY RATING	N/A	N/A	94V-0 @ 3/8 in.		
UL FILE NO. E257711	N/A	N/A	94V-2 @ 1/4 in.		

Your Source for
**POTTING & ENCAPSULATING
 EPOXIES &
 POLYURETHANES**



SYSTEM CHARACTERISTICS			LOCTITE® 3140™ HYSOL® EPOXY SYSTEM					LOCTITE® 3141™ HYSOL® EPOXY SYSTEM				
			3140™/3160™	3140™/3162™	3140™/3163™	3140™/3164™	3140™/3165™	3141™/3160™	3141™/3162™	3141™/3163™	3141™/3164™	3141™/3165™
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	11,000	11,000	11,000	11,000	11,000	80,000	80,000	80,000	80,000	80,000
		Hardener	180	120	450	105	55	180	120	450	105	55
		Mixed	1,700	2,000	1,500	1,500	2,000	7,000	5,000	4,000	6,000	13,000
	WORKING TIME	73°F (25°C)	80 to 100 min. @ 200 g	5 to 10 min. @ 100 g	80 to 100 min. @ 200 g	10 to 15 min. @ 400 g	to 1.5 hrs. @ 400 g	1.5 to 2 hrs. @ 400 g	5 min. @ 200 g	30 to 45 min. @ 200 g	10 min. @ 400 g	35 to 40 min. @ 200 g
	GEL TIME	73°F (25°C)	2.5 to 3 hrs. @ 200 g	10 to 15 min. @ 105 g	2.5 to 3 hrs. @ 200 g	25 to 35 min. @ 400 g	2 to 3 hrs. @ 400 g	2.5 to 3.5 hrs. @ 400 g	10 to 15 min. @ 200 g	60 to 80 min. @ 200 g	20 to 25 min. @ 200 g	65 to 75 min. @ 200 g
	CURE CYCLE	Normal 73°F (25°C)	24 hrs.	16 hrs.	24 hrs.	16 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
		Alternate 150°F (60°C)	2 hrs.	1 hr.	2 hrs.	2 hrs.	N/A	4 hrs.	2 hrs.	2 hrs.	2 hrs.	N/A
	MIX RATIO	By Weight (R:H)	100:20	100:18.1	100:29	100:29.5	100:9	4:1	100:19.8	100:30	100:31.5	100:9
		By Volume (R:H)	3.1:1	3.6:1	2:1	2:1	.5:1	2.5:1	3:1	2:1	2:1	6.5:1
	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Hardener		Clear	Clear	Clear	Clear	Clear	Clear	Clear	Amber	Amber	Clear	
Mixed		Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	
SPECIFIC GRAVITY	Resin	1.64	1.64	1.64	1.64	1.64	1.61	1.61	1.61	1.61	1.61	
	Hardener	1.00	0.99	0.96	0.97	0.96	1.00	0.99	0.96	0.97	0.96	
	Mixed	1.48	1.48	1.41	1.42	0.96	1.44	1.46	1.40	1.40	1.40	
TYPICAL CURED PROPERTIES	HARDNESS, SHORE D		80	80	80	70	85	85	90	80	85	85
	GLASS TRANSITION TEMPERATURE/Tg (°C)		27	35	20	27	67	43	75	38	31	104
	CTE ABOVE Tg (MM/MM°C)		130x10e-6	125x10e-6	133x10e-6	150x10e-6	119x10e-6	160x10e-6	135x10e-6	138x10e-6	111x10e-6	115x10e-5
	CTE BELOW Tg (MM/MM°C)		44x10e-6	37.5x10e-6	44.9x10e-6	82.6x10e-6	36.0x10e-6	60.7x10e-6	39.7x10e-6	52.6x10e-6	49.2x10e-6	35x10e-6
	DIELECTRIC CONSTANT	0.1 kHz	4.43	4.25	4.61	4.2	4.87	4.30	3.91	3.58	4.11	4.28
		1.0 kHz	4.37	4.20	4.37	4	4.83	4.22	3.88	3.52	3.97	4.18
		10.0 kHz	4.31	4.16	4.20	3.8	4.75	4.14	3.84	3.46	3.87	4.06
		100.0 kHz	4.24	4.10	4.05	3.7	4.64	4.03	3.79	3.39	3.77	3.92
	DISSIPATION FACTOR	0.1 kHz	0.008	0.010	0.040	0.08	0.003	0.01	0.01	0.01	0.02	0.01
		1.0 kHz	0.008	0.011	0.027	0.04	0.007	0.01	0.01	0.01	0.02	0.02
10.0 kHz		0.010	0.012	0.026	0.03	0.011	0.02	0.01	0.01	0.02	0.02	
100.0 kHz		0.014	0.013	0.023	0.03	0.014	0.02	0.01	0.02	0.02	0.02	
INSULATION RESISTANCE (OHMS)		1.14x10e+13	2.67x10e+13	1.61x10e+12	7.5x10e+111	5.19x10e+13	5.72x10e+13	4.09x10e+13	1.23x10e+14	4.57x10e+13	2.15x10e+13	
VOLUME RESISTIVITY (OHMS/CM)		6.03x10e+14	2.53x10e+15	1.02x10e+14	1.5x10e+14	2.69x10e+15	4.03x10e+15	2.61x10e+15	7.41x10e+15	2.98x10e+15	1.37x10e+15	
DIELECTRIC STRENGTH (VOLTS/MIL)		365	385	365	410	355	375	355	385	395	365	
FLAMMABILITY RATING UL FILE NO. E257711		N/A	N/A	N/A	UL 94B @ 1/16 in.	N/A	N/A	N/A	N/A	N/A	N/A	
INSULATION SYSTEM UL FILE NO. E257711		N/A	N/A	N/A	UL 1446	N/A	N/A	N/A	N/A	N/A	N/A	

SYSTEM CHARACTERISTICS		LOCTITE® 3142™ HYSOL® EPOXY SYSTEM					LOCTITE® 3145™ HYSOL® EPOXY SYSTEM					
		3142™/3160™	3142™/3162™	3142™/3163™	3142™/3164™	3142™/3165™	3145™/3160™	3145™/3162™	3145™/3163™	3145™/3164™	3145™/3165™	
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	120,000 - 200,000	120,000 - 200,000	120,000 - 200,000	120,000 - 200,000	120,000 - 200,000	32,760	32,760	32,760	32,760	32,760
		Hardener	180	120	450	105	55	180	120	450	105	55
		Mixed	7,500	6,000	7,000	8,000	18,000	5,560	7,150	5,315	5,790	13,355
	WORKING TIME	77°F (25°C)	1.5 to 2 hrs. @ 400 g	5 to 10 min. @ 200 g	2 hrs. @ 400 g	25 min. @ 400 g	80 min. @ 400 g	2.5 to 4 hrs. @ 200 g	15 to 30 min. @ 200 g	3 to 3.5 hrs. @ 200 g	35 to 45 min. @ 200 g	2.5 to 3 hrs. @ 400 g
	GEL TIME	77°F (25°C)	3.5 to 4 hrs. @ 400 g	5 to 30 min. @ 200 g	>3 hrs. @ 400 g	50 min @ 400 g	2.5 hrs. @ 400 g	6 to 8 hrs. @ 200 g	35 to 45 min. @ 200 g	6 to 7 hrs @ 200 g	75 to 90 min. @ 200 g	5 hrs. @ 200 g
	CURE CYCLE	Normal 77°F (25°C)	24 hrs.	24 hrs.	48 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
		Alternate 150°F (66°C)	4 hrs.	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F	2 hrs.	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F
	MIX RATIO	By Weight (R:H)	100:10.7	100:9	100:10.9	100:14.3	100:4.1	100:15	100:13	100:15.5	100:20	100:6
		By Volume (R:H)	3.8:1	4.5:1	3.6:1	2.8:1	9.7:1	4:1	4.5:1	3.7:1	2.9:1	9.7:1
	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Hardener		Clear	Clear	Amber	Amber	Clear	Clear	Clear	Clear	Clear	Clear	
Mixed		Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	
SPECIFIC GRAVITY	Resin	2.40	2.40	2.40	2.40	2.40	1.67	1.67	1.67	1.67	1.67	
	Hardener	1.00	0.99	0.96	0.97	0.96	1.00	0.99	0.96	0.97	0.96	
	Mixed	1.54	1.54	1.53	1.50	1.62	1.51	1.54	1.49	1.49	1.58	
TYPICAL CURED PROPERTIES	HARDNESS, SHORE D		90	90	90	85	90	80	84	80	75	88
	GLASS TRANSITION TEMPERATURE/Tg (C°)		26	42	30	29	84	28	42	38	32	53
	CTE ABOVE Tg (MM/MM°C)		104x10e-6	97.2x10e-6	96.1x10e-6	106x10e-6	87.7x10e-6	1.22x10e-6	128x10e-6	130x10e-6	122x10e-6	111x10e-6
	CTE BELOW Tg (MM/MM°C)		29.2x10e-6	28.2x10e-6	33.5x10e-6	51.9x10e-6	26.9x10e-6	39.2x10e-6	42.6x10e-6	49.0x10e-6	59.4x10e-6	40.6x10e-6
	THERMAL CONDUCTIVITY	Watts/Meter°C	0.422	1.40	1.40	1.27	1.14	0.7935	0.8068	0.8119	0.7324	1.0341
		DIELECTRIC CONSTANT	0.1 kHz	5.77	4.87	5.28	5.51	5.65	4.08	3.81	4.27	4.19
	1.0 kHz		5.69	4.83	5.20	5.35	5.57	4.28	3.85	4.36	4.46	4.45
	10.0 kHz		5.62	4.78	5.12	5.21	5.46	4.15	3.74	4.11	4.22	4.28
	100.0 kHz		5.52	4.72	5.02	5.06	5.34	4	3.63	3.90	3.99	4.11
	DISSIPATION FACTOR	0.1 kHz	0.00	0.01	0.01	0.02	0.01	0.027	0.028	0.033	0.036	0.045
1.0 kHz		0.001	0.01	0.01	0.02	0.01	0.031	0.025	0.046	0.042	0.036	
10.0 kHz		0.01	0.01	0.01	0.02	0.01	0.025	0.021	0.037	0.037	0.027	
100.0 kHz		0.01	0.01	0.01	0.02	0.01	0.023	0.017	0.031	0.034	0.024	
INSULATION RESISTANCE (OHMS)		4.61x10e+13	5.31x10e+13	3.65x10e+13	2.75x10e+12	4.09x10e+13	N/A	N/A	N/A	N/A	N/A	
VOLUME RESISTIVITY (OHMS/CM)		3.00x10e+15	3.47x10e+15	2.55x10e+15	1.65x10e+14	2.61x10e+15	1.10e+14	8.4e+14	2.1e+14	2.5e+13	7.3e+14	
DIELECTRIC STRENGTH (VOLTS/MIL)		360	345	355	345	335	595	693	748	695	794	
FLAMMABILITY RATING UL FILE NO. E257711		N/A	N/A	N/A	N/A	N/A	N/A	UL 94V-0 @ 1/8 in.	N/A	N/A	UL 94V-0 @ 1/8 in.	