

Circuit Safe NEMA Enclosures



Manufactured from polycarbonate material (bodies and covers), Carlon® NEMA enclosures deliver high temperature stability (-30° F to 230° F), exceptional corrosion resistance, and greater performance than traditional steel and stainless steel enclosures. Less than half the weight of metal enclosures, they're also easier to machine without fear of fracture and easier to install, while offering both a lower installed cost and longer service life. In addition, these attractive enclosures offer molded-in features not found in metal enclosures along with no rough edges, sharp corners, or burrs. Rated for use in all NEMA Type 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12, and 13 environments, Carlon NEMA enclosures meet or exceed both UL and CSA requirements. They are available in 10 different styles and 11 sizes from 6 x 4 x 4 to 16 x 14 x 6 with screw or hinged design, clear or opaque covers, and quick-release latches.

Features

- Captive stainless steel cover screws.
- Brass inserts for cover, mounting flanges and panel mounting screws.
- Back panel provisions accept standard size panels.
- Dove tailed corners for mounting panels or swing out panels at any depth. (Use optional adjustable back panel kit or swing out panel kit.)
- Oil resistant continuous gasket.
- Removable nonmetallic mounting rails included with factory assembled units.
- Tapered edge keeps liquids away from door opening.
- Ultraviolet stabilized for outdoor use.
- Optional steel or PVC back panels available.

Applications

- Junction boxes
- Terminal block enclosures
- Motor control housings
- Instrument cases
- Electronic equipment cases
- Splice and pull boxes
- Pushbutton housings

Standards

- Meets NEMA Type 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12, 13
- Per UL 50, enclosures for electrical equipment.
- CSA certified as indicated.

NEMA Enclosure Styles

Circuit Safe® NEMA enclosures are available in three different cover options and a wide range of sizes. From our screw cover style enclosures to our hidden hinge cover style enclosures to our external hinge cover style enclosures, Carlon has a Circuit Safe NEMA enclosure to meet your application-specific need.

Styles

- Screw Cover
- External Hinge
- Hidden Hinge

Cover Color Options

- Opaque
- Clear

Material

- Polycarbonate (Bases and Lids)



Screw Cover



External Hinge Cover



Hidden Hinge Cover

Screw-On Cover

Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12



Opaque Cover



Clear Cover

Factory Assembled

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 4	NS644	NV644	JP64 / JP64P	1	Opa 1.8 / Clr 1.9
6 x 6 x 4	NS664	NV664	JP66 / JP66P	1	Opa 2.4 / Clr 2.4
8 x 6 x 4	NS864	NV864	JP86 / JP86P	1	Opa 2.9 / Clr 2.8
8 x 8 x 4	NS884	NV884	JP88 / JP88P	1	Opa 3.2 / Clr 3.3
10 x 8 x 4	NS1084	NV1084	JP108 / JP108P	1	Opa 4.0 / Clr 3.9
10 x 8 x 6	NS1086	NV1086	JP108 / JP108P	1	Opa 4.6 / Clr 4.5
10 x 10 x 6	NS10106	NV10106	JP1010 / JP1010P	1	Opa 5.3 / Clr 4.9
12 x 10 x 6	NS12106	NV12106	JP1210 / JP1210P	1	Opa 6.1 / Clr 5.2
12 x 12 x 6	NS12126	NV12126	JP1212 / JP1212P	1	Opa 6.8 / Clr 6.1
14 x 12 x 6	NS14126	NV14126	JP1412 / JP1412P	1	Opa 7.4 / Clr 7.0
16 x 14 x 6	NS16146	NV16146	JP1614 / JP1614P	1	Opa 9.2 / Clr 8.1

* Kitted Enclosures include body, lid and mounting rail kit.

** Order back panels separately.

Individual Components

Enclosure Size	Enclosure Base*			Enclosure Lids				Back Panels**	
	Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Opaque Lids	Clear Lids	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn Qty.
6 x 4 x 4	NP644B	18	21	NS64L	NV64L	16	Opa 6.4 / Clr 5.7	JP64 / JP64P	1
6 x 6 x 4	NP664B	12	17	NS66L	NV66L	12	Opa 6.2 / Clr 5.7	JP66 / JP66P	1
8 x 6 x 4	NP864B	12	18	NS86L	NV86L	9	Opa 6 / Clr 4.4	JP86 / JP86P	1
8 x 8 x 4	NP884B	14	28	NS88L	NV88L	18	Opa 14 / Clr 11.2	JP88 / JP88P	1
10 x 8 x 4	NP1084B	12	26	NS108L	NV108L	12	Opa 13 / Clr 11	JP108 / JP108P	1
10 x 8 x 6	NP1086B	8	23	NS108L	NV108L	12	Opa 13 / Clr 11	JP108 / JP108P	1
10 x 10 x 6	NP1010B	6	20	NS1010L	NV1010L	11	Opa 14 / Clr 12	JP1010 / JP1010P	1
12 x 10 x 6	NP1210B	6	23	NS1210L	NV1210L	12	Opa 15 / Clr 15	JP1210 / JP1210P	1
12 x 12 x 6	NP1212B	5	22	NS1212L	NV1212L	10	Opa 15 / Clr 14	JP1212 / JP1212P	1
14 x 12 x 6	NP1412B	5	24	NS1412L	NV1412L	5	Opa 9 / Clr 9	JP1412 / JP1412P	1
16 x 14 x 6	NP1614B	4	31	NS1614L	NV1614L	5	Opa 11 / Clr 11	JP1614 / JP1614P	1

* Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

** Order back panels separately.

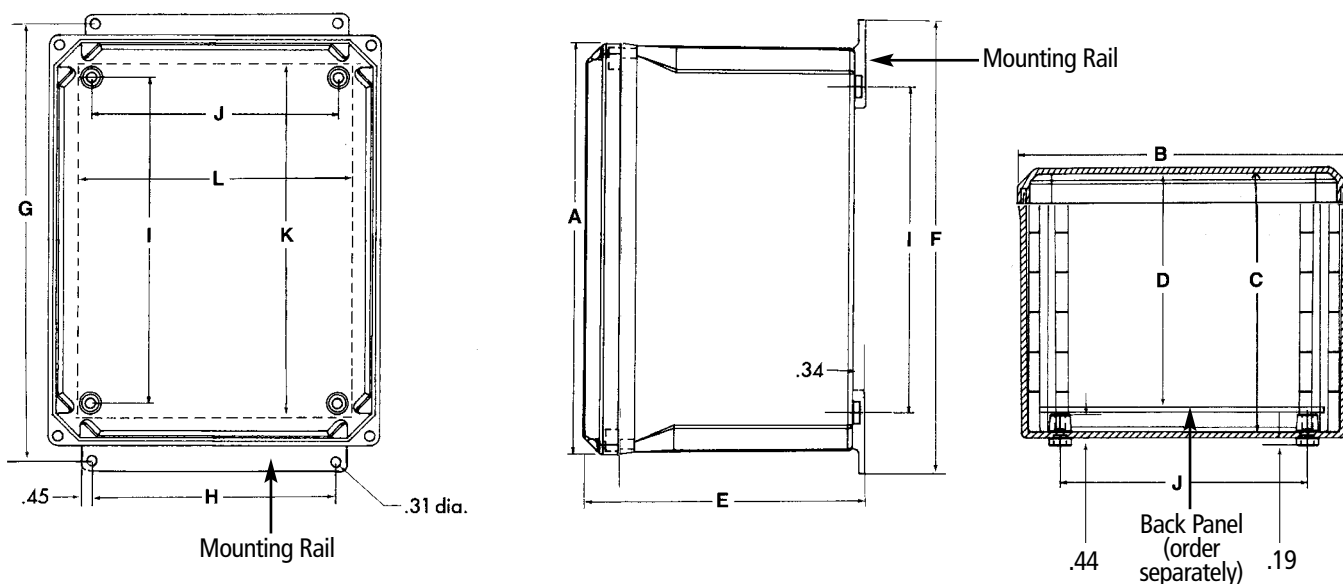
Screw-On Cover

Specifications

Enclosure With Clear Lid Part Nos.*	Opaque Lid Part Nos.*	Enclosure Size						Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Back Panel Size		Back Panel** Part Nos.	
		A	B	C	D	E	F	G	H	I	J	K	L	Steel	PVC
NV644	NS644	6.40	4.40	4.49	3.98	5.13	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NV664	NS664	6.40	6.40	4.49	3.98	5.13	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NV864	NS864	8.40	6.40	4.49	3.98	5.13	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NV884	NS884	8.40	8.40	4.49	3.98	5.13	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NV1084	NS1084	10.40	8.40	4.49	3.98	5.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NV1086	NS1086	10.40	8.40	6.49	5.98	7.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NV10106	NS10106	10.40	10.40	6.49	5.98	7.13	11.69	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NV12106	NS12106	12.40	10.40	6.49	5.98	7.13	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NV12126	NS12126	12.40	12.40	6.49	5.98	7.13	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NV14126	NS14126	14.40	12.40	6.49	5.98	7.13	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NV16146	NS16146	16.40	14.40	6.49	5.98	7.13	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1612P

* Packaged-To-Order Enclosures include body, lid and mounting rail kit.

** Order back panels separately. (10/32 - 3/8 Back Panel screws not supplied.)



Hidden Hinge Cover

Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12



Factory Assembled



Opaque Cover



Clear Cover

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 5 (y)	NH644	NI644	JP64 / JP64P	1	Opa 2.2 / Clr 2.8
6 x 6 x 5	NH664	NI664	JP66 / JP66P	1	Opa 2.7 / Clr 3.2
8 x 6 x 5	NH864	NI864	JP86 / JP86P	1	Opa 3.3 / Clr 3.8
8 x 8 x 5	NH884	NI884	JP88 / JP88P	1	Opa 3.8 / Clr 3.8
10 x 8 x 5	NH1084	NI1084	JP108 / JP108P	1	Opa 4.0 / Clr 4.5
10 x 8 x 7	NH1086	NI1086	JP108 / JP108P	1	Opa 5.2 / Clr 5.1
10 x 10 x 7	NH10106	NI10106	JP1010 / JP1010P	1	Opa 5.7 / Clr 5.8
12 x 10 x 7	NH12106	NI12106	JP1210 / JP1210P	1	Opa 6.9 / Clr 6.1
12 x 12 x 7	NH12126	NI12126	JP1212 / JP1212P	1	Opa 7.7 / Clr 7.2
14 x 12 x 7	NH14126	NI14126	JP1412 / JP1412P	1	Opa 8.3 / Clr 7.9
16 x 14 x 7	NH16146	NI16146	JP1614 / JP1614P	1	Opa 10.1 / Clr 9.6

* Packaged-To-Order Enclosures (except NI1084) include body, lid and mounting rail kit.

** Order back panels separately.

(y) 6 x 4 x 5 size not available with quick-release latches.

Individual Components

Enclosure Size	Enclosure Base*			Enclosure Lids				Collars			Back Panels**	
	Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Opaque Lids Part Nos.	Clear Lids Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn. Qty.
6 x 4 x 5(y)	NP644B	18	21	NH64L	NI64L	16	Opa 6.8 / Clr 6.3	NH64C	16	6	JP64 / JP64P	1
6 x 6 x 5	NP664B	12	17	NH66L	NI66L	12	Opa 6.8 / Clr 6.3	NH66C	12	5	JP66 / JP66P	1
8 x 6 x 5	NP864B	12	18	NH86L	NI86L	9	Opa 6.3 / Clr 5.7	NH86C	9	4	JP86 / JP86P	1
8 x 8 x 5	NP884B	14	28	NH88L	NI88L	18	Opa 16 / Clr 15	NH88C	9	3.6	JP88 / JP88P	1
10 x 8 x 5	NP1084B	12	26	NH108L	NI108L	12	Opa 13 / Clr 12	NH108C	12	7.8	JP108 / JP108P	1
10 x 8 x 7	NP1086B	8	23	NH108L	NI108L	12	Opa 13 / Clr 12	NH108C	12	7.8	JP108 / JP108P	1
10 x 10 x 7	NP1010B	6	20	NH1010L	NI1010L	11	Opa 14 / Clr 13	NH1010C	11	7.5	JP1010 / JP1010P	1
12 x 10 x 7(z)	NP1210B	6	23	NH1210L	NI1210L	12	Opa 17 / Clr 6	NH1210C	12	8	JP1210 / JP1210P	1
12 x 12 x 7(z)	NP1212B	5	22	NH1212L	NI1212L	10	Opa 17 / Clr 16	NH1212C	12	7.7	JP1212 / JP1212P	1
14 x 12 x 7(z)	NP1412B	5	24	NH1412L	NI1412L	5	Opa 10 / Clr 10	NH1412C	5	4.7	JP1412 / JP1412P	1
16 x 14 x 7(z)	NP1614B	4	31	NH1614L	NI1614L	5	Opa 13 / Clr 12	NH1614C	5	5.6	JP1614 / JP1614P	1

* Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

** Order back panels separately.

(y) 6 x 4 x 5 enclosures are not available with quick-release latches.

(z) Sizes 12 x 10 and larger require two (2) latches per enclosure.

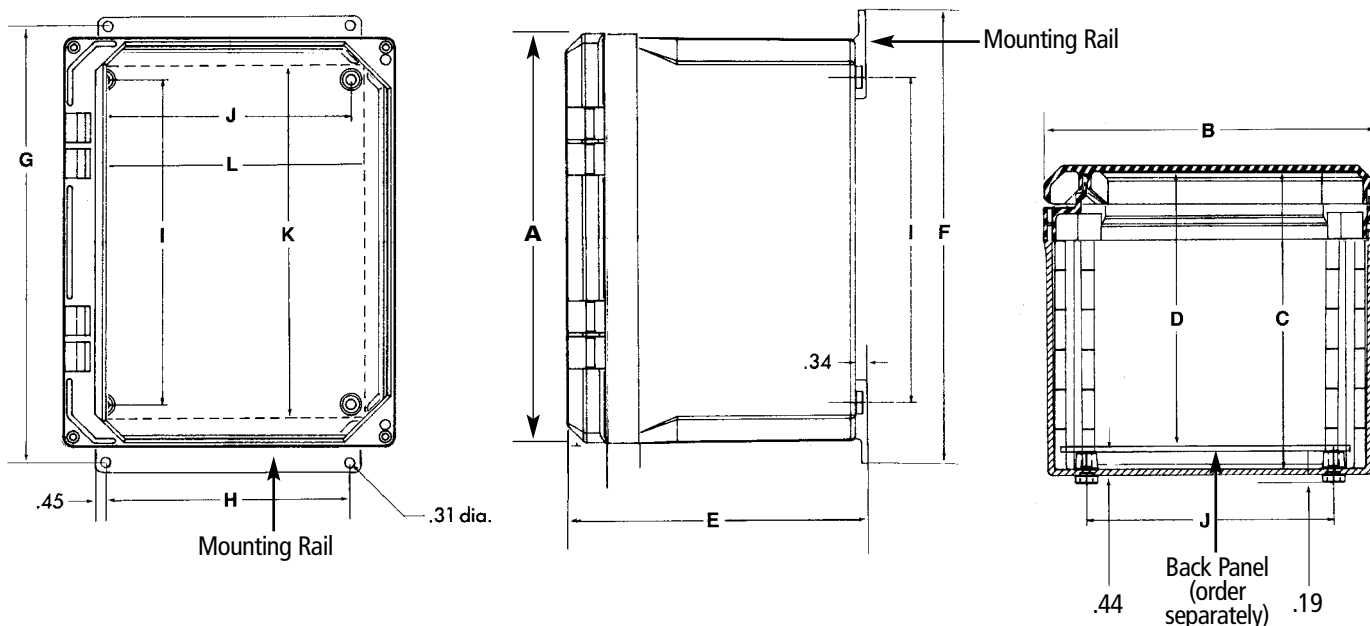
Hidden Hinge Cover

Specifications

Enclosure With Opaque Lid Part Nos.*	Clear Lid Part Nos.*	Enclosure Size						Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Back Panel Size		Back Panel** Part Nos.	
		A	B	C	D	E	F	G	H	I	J	K	L	Steel	PVC
NH644	NI644	6.40	4.40	5.30	4.79	5.94	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NH664	NI664	6.40	6.40	5.30	4.79	5.94	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NH864	NI864	8.40	6.40	5.30	4.79	5.94	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NH884	NI884	8.40	8.40	5.30	4.79	5.94	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NH1084	NI1084	10.40	8.40	5.30	4.79	5.94	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NH1086	NI1086	10.40	8.40	7.30	6.79	7.94	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NH10106	NI10106	10.40	10.40	7.30	6.79	7.94	11.59	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NH12106	NI12106	12.40	10.40	7.30	6.79	7.94	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NH12126	NI12126	12.40	12.40	7.30	6.79	7.94	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NH14126	NI14126	14.40	12.40	7.30	6.79	7.94	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NH16146	NI16146	16.40	14.40	7.30	6.79	7.94	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1612P

* Packaged-To-Order Enclosures (except NI1084) include body, lid and mounting rail kit.

** Order back panels separately. (¹⁰/₃₂ – ³/₈ Back Panel screws not supplied.)



External Hinge Cover

Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12



Factory Assembled



Opaque Cover



Clear Cover

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 4 (y)	NJ644	NC644	JP64 / JP64P	1	Opa 1.9 / Clr 2
6 x 6 x 4	NJ664	NC664	JP66 / JP66P	1	Opa 2.4 / Clr 2.4
8 x 6 x 4	NJ864	NC864	JP86 / JP86P	1	Opa 2.9 / Clr 2.9
8 x 8 x 4	NJ884	NC884	JP88 / JP88P	1	Opa 3.3 / Clr 3.3
10 x 8 x 4	NJ1084	NC1084	JP108 / JP108P	1	Opa 4 / Clr 4
10 x 8 x 6	NJ1086	NC1086	JP108 / JP108P	1	Opa 4.6 / Clr 4.7
10 x 10 x 6	NJ10106	NC10106	JP1010 / JP1010P	1	Opa 5.6 / Clr 5.3
12 x 10 x 6	NJ12106	NC12106	JP1210 / JP1210P	1	Opa 6.3 / Clr 5.8
12 x 12 x 6	NJ12126	NC12126	JP1212 / JP1212P	1	Opa 6.9 / Clr 6.6
14 x 12 x 6	NJ14126	NC14126	JP1412 / JP1412P	1	Opa 7.7 / Clr 7
16 x 14 x 6	NJ16146	NC16146	JP1614 / JP1614P	1	Opa 8.2 / Clr 8

* Packaged-To-Order Enclosures include body, lid and mounting rail kit.

** Order back panels separately.

(y) Quick-release latch not available in 6 x 4 x 4 size.

Individual Components

Enclosure Size	Enclosure Base*			Enclosure Lids			Back Panels**		
	Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Opaque Lids	Clear Lids	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn. Qty.
6 x 4 x 4 (y)	NL644B	18	29	NJ64L	NC64L	16	Opa 6.4 / Clr 4.2	JP64 / JP64P	1
6 x 6 x 4	NL664B	12	18	NJ66L	NC66L	12	Opa 5.0 / Clr 5.9	JP66 / JP66P	1
8 x 6 x 4	NL864B	8	14	NJ86L	NC86L	9	Opa 6 / Clr 5.3	JP86 / JP86P	1
8 x 8 x 4	NL884B	14	28	NJ88L	NC88L	18	Opa 15 / Clr 13.5	JP88 / JP88P	1
10 x 8 x 4	NL1084B	12	32	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1
10 x 8 x 6	NL1086B	8	15	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1
10 x 10 x 6	NL1010B	6	20	NJ1010L	NC1010L	11	Opa 14 / Clr 13	JP1010 / JP1010P	1
12 x 10 x 6(z)	NL1210B	6	24	NJ1210L	NC1210L	12	Opa 14 / Clr 15	JP1210 / JP1210P	1
12 x 12 x 6(y)	NL1212B	5	21.8	NJ1212L	NC1212L	10	Opa 16 / Clr 14	JP1212 / JP1212P	1
14 x 12 x 6(y)	NL1412B	4	19	NJ1412L	NC1412L	5	Opa 10 / Clr 9	JP1412 / JP1412P	1
16 x 12 x 6(y)	NL1614B	4	31	NJ1614L	NC1614L	5	Opa 13.5 / Clr 12	JP1614 / JP1614P	1

* Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

** Order back panels separately.

(z) Sizes 12 x 10 and larger require two (2) latches per enclosure.

(y) Quick-release latch not available in 6 x 4 x 4 size.

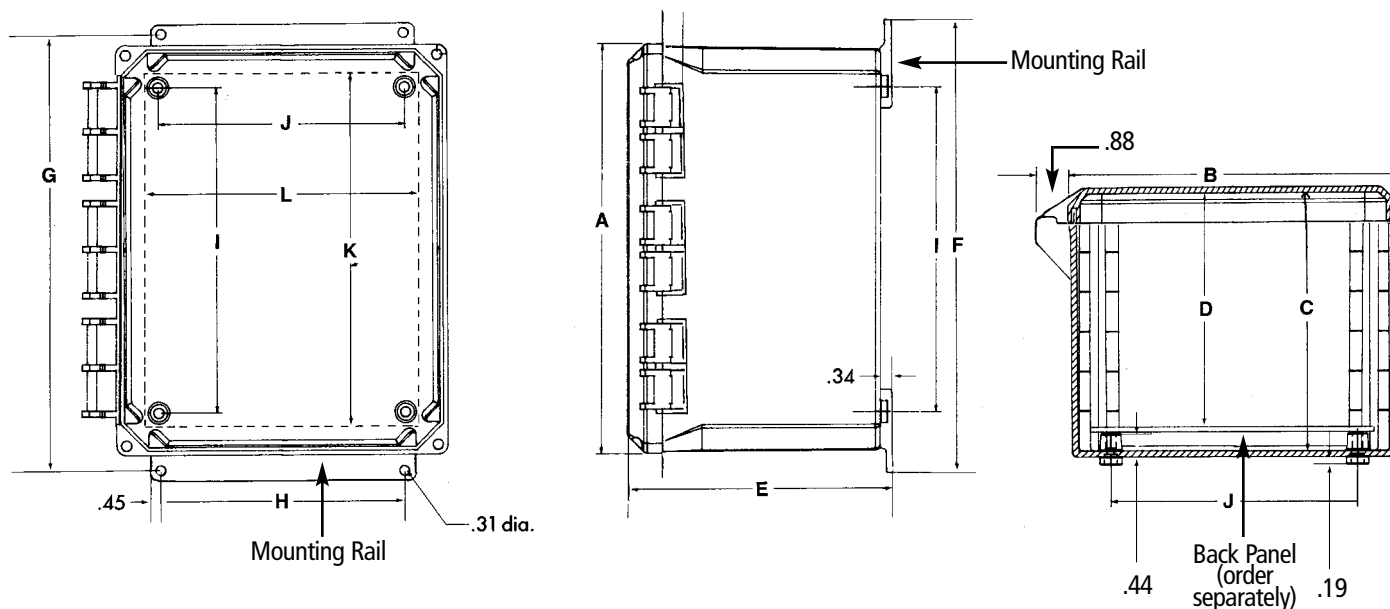
External Hinge Cover

Specifications

Enclosure With Clear Lid Part Nos.*	Opaque Lid Part Nos.*	Enclosure Size						Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Back Panel Size		Back Panel** Part Nos.	
		A	B	C	D	E	F	G	H	I	J	K	L	Steel	PVC
NC644	NJ644	6.40	4.40	4.49	3.98	5.13	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NC664	NJ664	6.40	6.40	4.49	3.98	5.13	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NC864	NJ864	8.40	6.40	4.49	3.98	5.13	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NC884	NJ884	8.40	8.40	4.49	3.98	5.13	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NC1084	NJ1084	10.40	8.40	4.49	3.98	5.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NC1086	NJ1086	10.40	8.40	6.49	5.98	7.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NC10106	NJ10106	10.40	10.40	6.49	5.98	7.13	11.69	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NC12106	NJ12106	12.40	10.40	6.49	5.98	7.13	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NC12126	NJ12126	12.40	12.40	6.49	5.98	7.13	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NC14126	NJ14126	14.40	12.40	6.49	5.98	7.13	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NC16146	NJ16146	16.40	14.40	6.49	5.98	7.13	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1614P

* Packaged-To-Order Enclosures; include body, lid and mounting rail kit.

** Order back panels separately. (10/32 - 3/8 Back Panel screws not supplied.)



Quick Reference

Screw-On Cover Style

Complete Enclosures (no Panel or Latches)		Individual Components						Latches (Qty. needed)	
Opaque Lid	Clear Lid	Body	Lid	Collar	Mtg. Rails	Back Panels		Steel	PVC
						Steel	PVC		
NS644		NP644B	NS64L	N/A	NMK4V	JP64	JP64P	N/A	N/A
	NV644	NP644B	NV64L	N/A	NMK4V	JP64	JP64P	N/A	N/A
NS664		NP664B	NS66L	N/A	NMK6V	JP66	JP66P	N/A	N/A
	NV664	NP664B	NV66L	N/A	NMK6V	JP66	JP66P	N/A	N/A
NS864		NP864B	NS86L	N/A	NMK6V	JP86	JP86P	N/A	N/A
	NV864	NP864B	NV86L	N/A	NMK6V	JP86	JP86P	N/A	N/A
NS884		NP884B	NS88L	N/A	NMK8V	JP88	JP88P	N/A	N/A
	NV884	NP884B	NV88L	N/A	NMK8V	JP88	JP88P	N/A	N/A
NS1084		NP1084B	NS108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
	NV1084	NP1084B	NV108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
NS1086		NP1086B	NS108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
	NV1086	NP1086B	NV108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
NS10106		NP1010B	NS1010L	N/A	NMK10V	JP1010	JP1010P	N/A	N/A
	NV10106	NP1010B	NV1010L	N/A	NMK10V	JP1010	JP1010P	N/A	N/A
NS12106		NP1210B	NS1210L	N/A	NMK10V	JP1210	JP1210P	N/A	N/A
	NV12106	NP1210B	NV1210L	N/A	NMK10V	JP1210	JP1210P	N/A	N/A
NS12126		NP1212B	NS1212L	N/A	NMK12V	JP1212	JP1212P	N/A	N/A
	NV12126	NP1212B	NV1212L	N/A	NMK12V	JP1212	JP1212P	N/A	N/A
NS14126		NP1412B	NS1412L	N/A	NMK12V	JP1412	JP1412P	N/A	N/A
	NV14126	NP1412B	NV1412L	N/A	NMK12V	JP1412	JP1412P	N/A	N/A
NS16146		NP1614B	NS1614L	N/A	NMK14V	JP1614	JP1614P	N/A	N/A
	NV16146	NP1614B	NV1614L	N/A	NMK14V	JP1614	JP1614P	N/A	N/A

External Hinge Cover Style

Complete Enclosures (no Panel or Latches)		Individual Components						Latches (Qty. needed)	
Opaque Lid	Clear Lid	Body	Lid	Collar	Mtg. Rails	Back Panels		Steel	PVC
						Steel	PVC		
NJ644		NL644B	NJ64L	N/A	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
	NC644	NL644B	NC64L	N/A	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
NJ664		NL664B	NJ66L	N/A	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
	NC664	NL664B	NC66L	N/A	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
NJ864		NL864B	NJ86L	N/A	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
	NC864	NL864B	NC86L	N/A	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
NJ884		NL884B	NJ88L	N/A	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
	NC884	NL884B	NC88L	N/A	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
NJ1084		NL1084B	NJ108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NC1084	NL1084B	NC108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NJ1086		NL1086B	NJ108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NC1086	NL1086B	NC108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NJ10106		NL1010B	NJ1010L	N/A	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
	NC10106	NL1010B	NC1010L	N/A	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
NJ12106		NL1210B	NJ1210L	N/A	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
	NC12106	NL1210B	NC1210L	N/A	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
NJ12126		NL1212B	NJ1212L	N/A	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
	NC12126	NL1212B	NC1212L	N/A	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
NJ14126		NL1412B	NJ1412L	N/A	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
	NC14126	NL1412B	NC1412L	N/A	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
NJ16146		NL1614B	NJ1614L	N/A	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)
	NC16146	NL1614B	NC1614L	N/A	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)

Quick Reference

Hidden Hinge Cover Style

Complete Enclosures (no Panel or Latches)		Individual Components						Latches (Qty. needed)	
Opaque Lid	Clear Lid	Body	Lid	Collar	Mtg. Rails	Back Panels		Steel	PVC
						Steel	PVC		
NH644		NP644B	NH64L	NH64C	NMK4V	JP64	JP64P	SSL (1)	NPL1L (1)
	NI644	NP644B	NI64L	NH64C	NMK4V	JP64	JP64P	SSL (1)	NPL1L (1)
NH664		NP664B	NH66L	NH66C	NMK6V	JP66	JP66P	SSL (1)	NPL1L (1)
	NI664	NP664B	NI66L	NH66C	NMK6V	JP66	JP66P	SSL (1)	NPL1L (1)
NH864		NP864B	NH86L	NH86C	NMK6V	JP86	JP86P	SSL (1)	NPL1L (1)
	NI864	NP864B	NI86L	NH86C	NMK6V	JP86	JP86P	SSL (1)	NPL1L (1)
NH884		NP884B	NH88L	NH88C	NMK8V	JP88	JP88P	SSL (1)	NPL1L (1)
	NI884	NP884B	NI88L	NH88C	NMK8V	JP88	JP88P	SSL (1)	NPL1L (1)
NH1084		NP1084B	NH108L	NH108C	NMK8V	JP108	JP108P	SSL (1)	NPL1L (1)
	NI1084	NP1084B	NI108L	NH108C	NMK8V	JP108	JP108P	SSL (1)	NPL1L (1)
NH1086		NP1086B	NH108L	NH108C	NMK8V	JP108	JP108P	SSL (1)	NPL1L (1)
	NI1086	NP1086B	NI108L	NH108C	NMK8V	JP108	JP108P	SSL (1)	NPL1L (1)
NH10106		NP1010B	NH1010L	NH1010C	NMK10V	JP1010	JP1010P	SSL (1)	NPL1L (1)
	NI10106	NP1010B	NI1010L	NH1010C	NMK10V	JP1010	JP1010P	SSL (1)	NPL1L (1)
NH12106		NP1210B	NH1210L	NH1210C	NMK10V	JP1210	JP1210P	SSL (2)	NPL1L (2)
	NI12106	NP1210B	NI1210L	NH1210C	NMK10V	JP1210	JP1210P	SSL (2)	NPL1L (2)
NH12126		NP1212B	NH1212L	NH1212C	NMK12V	JP1212	JP1212P	SSL (2)	NPL1L (2)
	NI12126	NP1212B	NI1212L	NH1212C	NMK12V	JP1212	JP1212P	SSL (2)	NPL1L (2)
NH14126		NP1412B	NH1412L	NH1412C	NMK12V	JP1412	JP1412P	SSL (2)	NPL1L (2)
	NI14126	NP1412B	NI1412L	NH1412C	NMK12V	JP1412	JP1412P	SSL (2)	NPL1L (2)
NH16146		NP1614B	NH1614L	NH1614C	NMK14V	JP1614	JP1614P	SSL (2)	NPL1L (2)
	NI16146	NP1614B	NI1614L	NH1614C	NMK14V	JP1614	JP1614P	SSL (2)	NPL1L (2)

Circuit Safe® NEMA Accessories

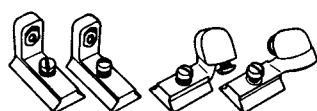
Mounting Rails*



Mounting Rail Kits Part Number	Size (in.)	Std. Ctn. Qty.	Weight (lbs.)
NMK4V	4	25	5
NMK6V	6	24	7.7
NMK8V	8	24	10.25
NMK10V	10	20	13.26
NMK12V	12	20	11.4
NMK14V	14	25	17.76

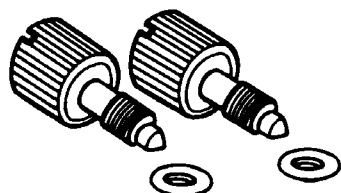
*Mounting rails can be mounted on long or short side of enclosure.
Does not apply to 16" enclosure.

Panel Adjuster Kits



Product	Part Numbers	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
Panel Adjuster Kit	NBPADJ2	4 panel adjusters 4 #10-32 screws to mount panel	10 kits	2.07
180° Swing Out Panel Kit	NBPSWG	4 panel adjusters 2 hinges 2 #10-32 screws to mount panel	10 kits	2.68
Swing Out Panel Adjuster Kit	NBPSWG2	2 hinged adjusters 2 panel adjusters 4 #10-32 screws	10 kits	1.80

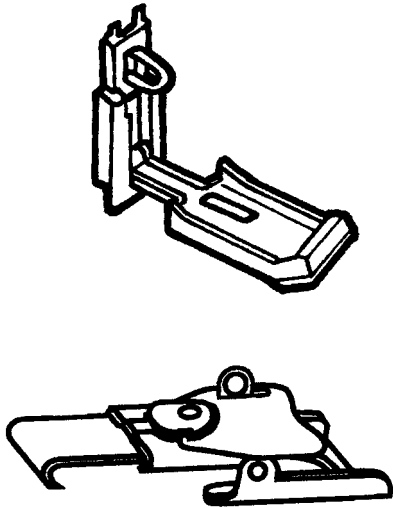
#10-32 Panel Thumb Screws Used on internal hinge door only.



Part Number	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
NBPTSK	2 #10-32 thumb screws 2 nonmetallic washers	10 kits	1.2

Circuit Safe® NEMA Accessories

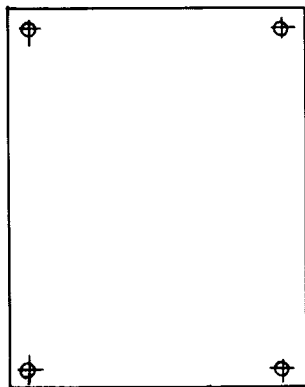
Latch Kits For NEMA hinged enclosures.



Product	Part Numbers	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
Nonmetallic Quick-Release Latch Kit	NPL1L	Quick-Release Latch Kit for use with hidden hinge enclosure for NH & NI Series	25	2.00
Nonmetallic Quick-Release Latch Kit	NPL1S	Quick-Release Latch Kit for use with external hinge enclosure for NJ & NC Series	25	2.00
304 Stainless Steel Quick-Release Latch Kit	SSLL	Quick-Release Latch Kit for use with hidden hinge enclosure for NH & NI Series	25	4.27
304 Stainless Steel Quick-Release Latch Kit	SSLS	Quick-Release Latch Kit for use with external hinge enclosure for NJ & NC Series	25	3.41

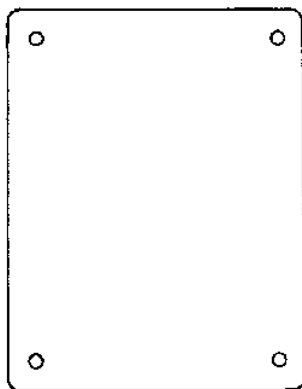
Circuit Safe® NEMA and JIC Accessories

Steel Back Panels* Steel back panels are white painted 14 gauge steel.



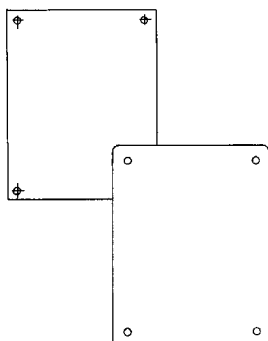
Part Nos.	Thickness (in.)	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
JP64	14 gauge	4.88 x 2.88	1	0.6
JP66	14 gauge	4.88 x 4.88	1	1.0
JP86	14 gauge	6.75 x 4.88	1	1.0
JP88	14 gauge	6.75 x 6.88	1	1.2
JP108	14 gauge	8.75 x 6.88	1	1.5
JP1010	14 gauge	8.75 x 8.88	1	2.3
JP1210	14 gauge	10.75 x 8.88	1	2.7
JP1212	14 gauge	10.75 x 10.88	1	3.5
JP1412	14 gauge	12.75 x 10.88	1	3.8
JP1614	14 gauge	14.75 x 12.88	1	4.7

PVC Back Panels* PVC back panels are made from 1/4" PVC and meet UL94 V-0.



Part Nos.	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
JP64P	4 ⁷ / ₈ x 2 ⁷ / ₈	1	0.3
JP66P	4 ⁷ / ₈ x 4 ⁷ / ₈	1	0.3
JP86P	6 ³ / ₄ x 4 ⁷ / ₈	1	0.4
JP88P	6 ³ / ₄ x 6 ⁷ / ₈	1	0.5
JP108P	8 ³ / ₄ x 8 ⁷ / ₈	1	0.7
JP1010P	8 ³ / ₄ x 8 ⁷ / ₈	1	0.9
JP1210P	10 ³ / ₄ x 10 ⁷ / ₈	1	1.2
JP1212P	10 ³ / ₄ x 10 ⁷ / ₈	1	1.5
JP1412P	12 ³ / ₄ x 10 ⁷ / ₈	1	1.7
JP1614P	14 ³ / ₄ x 12 ⁷ / ₈	1	2.3

Medium NEMA Back Panels*



Part Nos. Steel/PVC	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
NP2016 / NP2016P	17 x 13	1	7.0 / 6.125
NP2420 / NP2420P	21 x 17	1	10.4 / 4.71
NP3024 / NP3024P	27 x 21	1	18.0 / 9.781

*Circuit Safe NEMA enclosures are not shipped with back panels which must be ordered separately. All accessories can be factory installed. Consult Customer Service for price and delivery.

Circuit Safe® NEMA and JIC Accessories

Draining Device* For 3R Rating and condensation build-up.



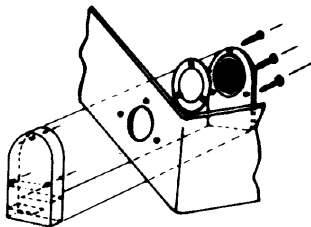
Part Number	Standard Carton Qty.
HPVEA9	1

Air Vents* NEMA 1 Rated only.



Part Numbers	Style	Standard Carton Qty.
HPVM25	For fitting outside of all enclosures	1
HPVM35	For fitting inside of all enclosures	1

Enclosure Ventilator* Allows any size enclosure to breathe, yet remains watertight.



Part Number	Standard Carton Qty.
HVM27	1

*Factory installation available.



Except where noted by ►

Window Kits

NEMA 4X Rated

Window kits are easily field-installed. Nonmetallic construction and double gaskets ensure environmental integrity. For circuit breaker and other surface mounted instruments.

Part Nos.*	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
NI64W	6 x 4	1	.8
NI66W	6 x 6	1	.9
NI86W	8 x 6	1	1.17
NI88W	8 x 8	1	1.4
NI108W	10 x 8	1	1.5
NI1010W	10 x 10	1	1.82
NI1210W	12 x 10	1	2.12
NI1212W	12 x 12	1	2.65
NI1412W	14 x 12	1	2.67
► NI1614W	16 x 14	1	3.10

All window kits can be factory installed to Carlon® enclosures. Consult factory for price and delivery.

* Non-stock factory order only – consult Customer Service.

Features

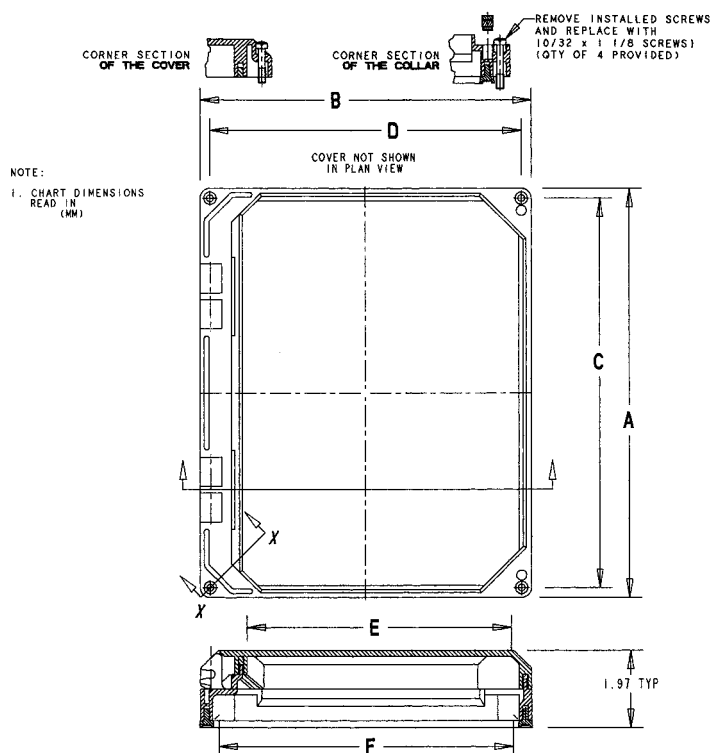
- High-impact strength.
- Excellent weathering capabilities.
- High dielectric strength.
- Corrosion resistant.
- Suitable for indoor and outdoor use.
- Fully gasketed.
- Extended temperature range -30°F to 230°F.
- Lightweight.

Standards

- UL Listed and meets NEMA Type 4X with the exception of NI1614W. All sizes are NEMA Type 12 rated.

Applications

- Instrument case.
- Junction and terminal boxes.
- Control and switching enclosures
- Meter and transformer cabinets.
- Small device enclosures.



Size	A	B	C	D	E	F
NI64W	6.42 (163.1)	4.41 (112.0)	5.92 (150.4)	3.92 (99.6)	2.72 (69.1)	3.80 (96.5)
NI66W	6.42 (163.1)	6.42 (163.1)	5.92 (150.4)	5.92 (150.4)	4.72 (119.9)	5.80 (147.3)
NI86W	8.42 (213.9)	6.42 (163.1)	7.92 (201.2)	5.92 (150.4)	4.72 (119.9)	5.80 (147.3)
NI88W	8.42 (213.9)	8.42 (213.9)	7.92 (201.2)	7.92 (201.2)	6.72 (170.7)	7.80 (198.1)
NI108W	10.42 (264.7)	8.42 (213.9)	9.92 (252.0)	7.92 (201.2)	6.72 (170.7)	7.80 (198.1)
NI1010W	10.42 (264.7)	10.42 (264.7)	9.92 (251.9)	9.92 (251.9)	8.72 (221.5)	9.80 (248.9)
NI1210W	12.42 (315.5)	10.42 (264.7)	11.92 (302.7)	9.92 (251.9)	8.72 (221.5)	9.80 (248.9)
NI1212W	12.42 (315.5)	12.42 (315.5)	11.92 (302.7)	11.92 (302.7)	10.72 (272.3)	11.80 (299.7)
NI1412W	14.42 (366.3)	12.42 (315.5)	13.92 (353.6)	11.92 (302.7)	10.72 (272.3)	11.80 (299.7)
NI1614W	16.42 (417.1)	14.42 (366.3)	15.92 (404.4)	13.92 (353.6)	12.72 (323.1)	13.80 (350.5)

For All Enclosures



Painted JIC enclosure with painted back panel. Installed clear cover with handle and quick-release latch.



Color molded JIC unit with addition of window and pushbuttons.



Molded junction box painted with addition of mounted in-use weatherproof cover.



Painted JIC enclosure with pocket installed in cover for control pad.

Color Molded Enclosures

All Circuit Safe® enclosures can be molded in a variety of colors. Minimum quantities for single shipment or releases against blanket orders are required.

Painted/Silkscreened Enclosures

All enclosures can be painted, interior and exterior, or by special request. Enclosure covers can also be silkscreened on request.

EMI/RFI Protection

For applications where Radio Frequency Interference is a factor, the interior can be coated with an acrylic base paint with a nickel filler. Windows can be covered with fine copper mesh.

Other Modifications Available

Our factory is capable of modifying any of our enclosures to a customer's specifications. Factory's capabilities include:

- Precision milling of button holes, windows, and pockets for keypad installations.
- Hole tapping.
- Ventilators.
- Mounting bosses.
- Access windows.
- Hinged windows.
- Mounted in use weatherproof covers.
- Handles for portable units.
- Latches.
- Enclosure coolers.
- Cylinder locking systems.
- And more!

NEMA Types – Definitions Pertaining to Nonhazardous Locations



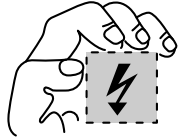

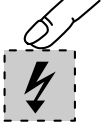





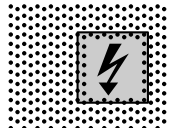

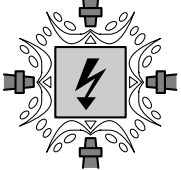
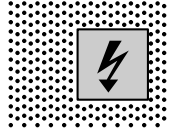

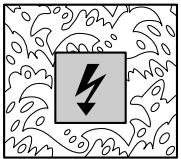
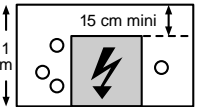
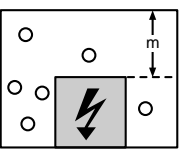
Enclosures for Electrical Equipment

An enclosure is a surrounding case constructed to provide protection from accidental contact with the enclosed equipment and to provide protection to the enclosed equipment from specified environmental conditions. A brief description of the more common types of enclosures used by the electrical industry follows.

- Type 1 Enclosure:** Intended for indoor use primarily to provide protection against contact with enclosed equipment and a degree of protection against falling dirt.
- Type 2 Enclosure:** Intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt.
- Type 3 Enclosure:** Intended for outdoor use primarily to provide a degree of protection against wind-blown dust, rain, sleet and external ice formation.
- Type 3R Enclosure:** Intended for outdoor use primarily to provide a degree of protection against falling rain, sleet and external ice formation.
- Type 3S Enclosure:** Intended for outdoor use primarily to provide a degree of protection against wind-blown dust, rain, and sleet, and to provide for operation of external mechanism when ice laden.
- Type 3X Enclosure:** Intended for outdoor use primarily to provide a degree of protection against wind-blown dust, rain, sleet, external ice formation, and corrosion.
- Type 3SX Enclosure:** Intended for outdoor use primarily to provide a degree of protection against wind-blown dust, rain, sleet, and corrosion, and to provide for operation of external mechanism when ice laden.
- Type 4 Enclosure:** Intended for indoor or outdoor use primarily to provide a degree of protection against wind-blown dust and rain, splashing water and hose-directed water.
- Type 4X Enclosure:** Intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, wind-blown dust and rain, splashing water and hose-directed water.
- Type 6 Enclosure:** Intended for indoor or outdoor use primarily to avoid a degree of protection against contact with enclosed equipment, falling dirt, hose-directed water, entry of water during occasional temporary submersion at a limited depth and external ice formation.
- Type 6P Enclosure:** Intended for indoor or outdoor use primarily to provide a degree of protection against contact with enclosed equipment, falling dirt, hose-directed water, entry of water during prolonged submersion at a limited depth and external ice formation.
- Type 12 Enclosure:** Intended for indoor use primarily to provide a degree of protection against dust, falling dirt and dripping noncorrosive liquids.
- Type 13 Enclosure:** Intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil and noncorrosive coolant.

International Standards IP Protection Classification Data

The letters IP followed by three characteristic numbers symbolize the degree of protection.

First Digit		Second Digit	
Protection Against Solid Bodies		Protection Against Liquids	
IP	Test	IP	Test
0	 No protection	0	 No protection
1	 Protection against solid bodies larger than 50 mm (for example accidentally touching with the hand)	1	 Protection against vertical water drops condensation
2	 Protection against solid bodies larger than 12 mm (for example a finger)	2	 Protected against water drops at up to 15° from the vertical
3	 Protection against solid bodies larger than 2.5 mm (tools, wires)	3	 Protected against rain at up to 60° from the vertical
4	 Protection against solid bodies larger than 1 mm (tools, small wires)	4	 Δ Protected against water splashing from all directions
5	  Protection against dust (no harmful deposits)	5	 $\Delta \Delta$ Protected against water sprayed from a hose from all directions
6	  Complete protection against dust	6	 Protected against water projections similar to sea wave splashes
		7	 Protected against the effector immersion
		8	 Protected against effects of prolonged immersion under pressure

Clearance Holes For Carflex® Fittings or PVC Male Terminal Adapters

Carflex Fittings & PVC Male Terminal Adapters Trade Sizes	Nominal Size (in.)	Actual Size (in.)	Actual Size (mm)
1/2	.875	.879	22.4
3/4	1.093	1.107	28.2
1	1.344	1.357	34.6
1 1/4	1.813	1.699	43.2
1 1/2	1.938	1.949	49.6
2	2.375	2.413	61.5
2 1/2	2.875	2.914	74.0
3	3.5	3.539	89.8
3 1/2	4	4.044	102.7
4	4.5	4.544	115.4
5	5.625	5.675	143.7

Engineering Properties Of Enclosures

Property	Test Method	Opaque Polycarbonate Covers & Boxes	Clear Polycarbonate Cover	FRP
Thermal And Mechanical				
Temperature Range (°F)	-	-30° to 230°	-30° to 230°	-58° to 320°
Specific Gravity (oz./in ³)	ASTM D792	1.20	1.20	1.79
Thermal Conductivity (BTU•in/hr•ft ² •°F)	ASTM D177	1.35	1.35	1.68
Heat Deflection Temperature @ 264 PSI (°F)	ASTM D648	265	260	392
Tensile Strength (PSI)	ASTM D638	8,800	9,000	13,000
Flexural Strength (PSI)	ASTM D790	13,500	14,000	19,000
Compressive Strength @ 10% Deformation (PSI)	ASTM D695	12,500	12,500	24,000
Impact Strength IZOD Notched (ft.lbs./in.)	ASTM D256	12	12	12
Water Absorption – 24 hrs. @ 73°F (%)	ASTM D570	0.15	0.15	0.17
Electrical				
Dielectric Strength (VOLTS/MIL.)	ASTM D149	380	380	467
Dielectric Constant	ASTM D150			
60 Hz		3.0	3.0	-
100 Hz		-	-	-
106		2.96	2.96	-
Volume Resistivity @ 73°F (OHM-CM)	ASTM D257	>10 ¹⁶	>10 ¹⁶	2.0 x 10 ¹⁵
Arc Resistance (SEC)	ASTM D495	120	120	200+

Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used **ONLY** as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Acetaldehyde	U	L	-	-
Acetamide	U	U	-	-
Acetate Solvent	U	-	-	U
Acetic Acid	U	G	E	E
Acetic Acid 20%	U	E	E	E
Acetic Acid 80%	L	G	E	E
Acetic Acid, Glacial	U	G	E	E
Acetic Anhydride	U	U	E	U
Acetone	U	U	U	U
Acetyl Bromide	U	-	-	-
Acetyl Chloride (dry)	L	U	-	U
Acetylene	E	U	-	-
Acrylonitrile	G	U	-	-
Adipic Acid	E	-	-	-
Alcohols:Amyl	E	G	-	L
Alcohols:Benzyl	U	-	-	U
Alcohols:Butyl	E	E	-	E
Alcohols:Diacetone	G	-	-	E
Alcohols:Ethyl	L	G	-	E
Alcohols:Hexyl	E	-	-	E
Alcohols:Isobutyl	E	-	-	E
Alcohols:Isopropyl	E	E	-	E
Alcohols:Methyl	E	G	-	E
Alcohols:Octyl	-	-	-	E
Alcohols:Propyl	E	-	-	E
Aluminum Chloride	E	E	E	E
Aluminum Chloride 20%	E	E	-	E
Aluminum Fluoride	E	-	-	E
Aluminum Hydroxide	E	G	-	E
Aluminum Nitrate	G	E	-	-
Aluminum Potassium Sulfate 10%	E	E	-	E
Aluminum Potassium Sulfate 100%	E	E	-	E
Aluminum Sulfate	E	E	E	E
Amines	U	U	-	U
Ammonia 10%	G	U	-	E
Ammonia Nitrate	G	-	-	E
Ammonia, anhydrous	E	U	-	G
Ammonia, liquid	E	U	L	-
Ammonium Acetate	E	-	-	-
Ammonium Bifluoride	E	-	-	E
Ammonium Carbonate	E	-	L	E
Ammonium Caseinate	-	-	-	E
Ammonium Chloride	E	E	E	E
Ammonium Hydroxide	E	U	L	E
Ammonium Nitrate	E	-	L	E
Ammonium Oxalate	E	E	-	-
Ammonium Persulfate	E	-	-	E
Ammonium Phosphate, Dibasic	E	E	-	E
Ammonium Phosphate, Monobasic	E	-	-	E
Ammonium Phosphate, Tribasic	E	-	-	E
Ammonium Sulfate	E	E	E	E
Ammonium Sulfite	E	-	E	E
Amyl Acetate	U	U	L	U
Amyl Alcohol	E	G	L	L
Amyl Chloride	U	-	U	U
Aniline	L	U	U	U
Aniline Hydrochloride	G	U	-	-
Antifreeze	E	-	-	E
Antimony Trichloride	E	E	E	E
Aqua Regia (80% HCl, 20% HNO3)	L	U	-	U

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Aromatic Hydrocarbons	U	-	-	U
Arsenic Acid	E	E	-	E
Arsenic Salts	E	-	-	-
Asphalt	E	U	-	-
Barium Carbonate	E	E	E	E
Barium Chloride	E	E	E	E
Barium Cyanide	U	-	-	-
Barium Hydroxide	E	U	U	E
Barium Nitrate	E	U	-	E
Barium Sulfate	G	U	E	E
Barium Sulfide	E	-	E	E
Beer	E	E	-	E
Beet Sugar Liquids	E	-	-	E
Benzaldehyde	U	U	U	G
Benzene	L	U	L	U
Benzene Sulfonic Acid	E	U	E	E
Benzoic Acid	E	G	-	G
Benzol	-	-	-	G
Benzonitrile	-	E	-	-
Benzyl Chloride	-	-	-	U
Bleaching Liquors	E	-	-	-
Borax (Sodium Borate)	E	-	-	E
Boric Acid	E	-	E	E
Bromine	L	L	-	E
Butadiene	L	U	-	U
Butane	L	U	-	U
Butanol (Butyl Alcohol)	L	G	-	E
Butyl Amine	U	U	-	U
Butyl Ether	E	-	-	U
Butyl Phthalate	-	U	-	E
Butylacetate	U	U	U	G
Butylene	E	U	-	-
Butyric Acid	G	U	-	U
Calcium Bisulfate	-	U	-	-
Calcium Bisulfide	E	-	-	E
Calcium Bisulfite	G	U	-	E
Calcium Carbonate	E	L	E	E
Calcium Chlorate	G	-	E	-
Calcium Chloride	L	-	E	E
Calcium Hydroxide	G	U	U	E
Calcium Hypochlorite	G	U	L	E
Calcium Nitrate	E	E	E	E
Calcium Oxide	G	-	-	E
Calcium Sulfate	G	E	E	E
Calgon	-	-	-	E
Cane Juice	E	-	-	-
Carbolic Acid (Phenol)	U	U	-	U
Carbon Bisulfide	U	-	L	-
Carbon Dioxide (dry)	E	-	-	E
Carbon Dioxide (wet)	E	-	-	E
Carbon Disulfide	U	U	-	E
Carbon Monoxide	E	-	-	U
Carbon Tetrachloride	U	U	E	U
Carbon Tetrachloride (dry)	-	-	-	U
Carbon Tetrachloride (wet)	-	-	-	U
Carbonated Water	E	-	-	E
Carbonic Acid	E	E	-	E
Catsup	E	-	-	E
Chloric Acid	E	-	-	U
Chlorine (dry)	U	-	-	G

Chemical Resistance Data

Environmental Resistance Table: *E-Excellent, G-Good, L-Limited, U-Unsatisfactory*

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used **ONLY** as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Chlorine Water	E	-	E	L
Chlorine, Anhydrous Liquid	U	L	-	G
Chloroacetic Acid	G	U	-	-
Chlorobenzene (Mono)	U	U	U	U
Chlorobromomethane	U	-	-	-
Chloroform	U	U	-	U
Chlorosulfonic Acid	U	L	-	U
Chocolate Syrup	-	E	-	E
Chromic Acid 10%	E	G	E	E
Chromic Acid 30%	E	L	-	U
Chromic Acid 5%	E	G	-	E
Chromic Acid 50%	U	U	-	U
Chromium Salts	E	-	-	-
Citric Acid	G	E	E	E
Citric Oils	-	-	-	E
Clorox® (Bleach)	E	-	-	E
Copper Chloride	E	-	-	E
Copper Cyanide	E	U	-	E
Copper Fluoborate	E	-	-	-
Copper Nitrate	E	U	-	E
Copper Sulfate >5%	E	E	-	E
Copper Sulfate 5%	E	E	-	E
Cresols	U	U	U	U
Cresylic Acid	U	U	-	-
Cupric Acid	E	E	-	E
Cyclohexane	U	G	-	U
Cyclohexanone	U	U	-	U
Detergents	E	E	-	E
Diacetone Alcohol	U	U	-	-
Dichlorobenzene	U	U	-	-
Dichloroethane	U	U	-	E
Diesel Fuel	E	E	-	U
Diethyl Ether	U	U	-	-
Diethylamine	U	U	-	-
Diethylene Glycol	L	G	-	E
Dimethyl Aniline	U	U	U	U
Dimethyl Formamide	U	U	-	U
Diphenyl Oxide	U	-	-	-
Dyes	G	-	-	E
Epsom Salts (Magnesium Sulfate)	E	E	-	E
Ethane	E	-	-	-
Ethanol	L	G	-	E
Ethanolamine	U	-	-	E
Ether	U	-	L	U
Ethyl Acetate	U	U	L	E
Ethyl Benzoate	U	U	-	E
Ethyl Chloride	U	U	L	U
Ethyl Ether	U	-	U	U
Ethylene Bromide	U	U	-	-
Ethylene Chloride	U	U	-	U
Ethylene Chlorohydrin	U	U	E	-
Ethylene Diamine	U	E	-	U
Ethylene Dichloride	U	U	U	U
Ethylene Glycol	E	G	E	E
Ethylene Oxide	U	L	-	E
Fatty Acids	E	G	-	E
Ferric Chloride	E	E	E	E
Ferric Nitrate	E	E	E	E
Ferric Sulfate	E	E	E	E
Ferrous Chloride	E	U	E	E

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Ferrous Sulfate	E	E	E	E
Fluoboric Acid	E	-	-	E
Fluorine	U	L	-	-
Fluosilicic Acid	U	E	-	E
Formaldehyde 100%	E	E	-	E
Formaldehyde 40%	E	E	E	E
Formic Acid	E	E	L	E
Freon 113	G	G	-	U
Freon 12	E	-	-	U
Freon 22	E	-	-	G
Freon TF	G	-	-	-
Freon® 11	E	-	-	G
Fuel Oils	E	G	-	G
Furan Resin	E	-	-	-
Furfural	U	U	L	U
Gallic Acid	G	-	-	E
Gasoline (high-aromatic)	E	E	-	G
Gasoline, leaded, ref.	G	E	E	G
Gasoline, unleaded	L	E	-	U
Gelatin	G	-	-	E
Glucose	E	E	E	E
Glue, P.V.A.	L	-	-	-
Glycerin	E	E	E	E
Glycolic Acid	G	-	-	-
Grease	E	-	-	-
Heptane	L	G	E	G
Hexane	G	U	U	G
Hydraulic Oil (Petro)	E	-	-	-
Hydraulic Oil (Synthetic)	E	-	-	-
Hydrazine	-	U	-	-
Hydrobromic Acid 100%	E	-	-	G
Hydrobromic Acid 20%	G	-	-	E
Hydrochloric Acid 100%	U	U	-	E
Hydrochloric Acid 20%	E	G	E	E
Hydrochloric Acid 37%	G	U	L	E
Hydrochloric Acid, Dry Gas	E	-	-	E
Hydrocyanic Acid	G	-	-	E
Hydrocyanic Acid (Gas 10%)	E	G	-	L
Hydrofluoric Acid 100%	L	U	-	U
Hydrofluoric Acid 20%	G	U	-	L
Hydrofluoric Acid 50%	G	U	-	U
Hydrofluoric Acid 75%	L	U	-	U
Hydrofluosilicic Acid 100%	G	-	-	G
Hydrofluosilicic Acid 20%	E	-	-	G
Hydrogen Gas	E	E	-	E
Hydrogen Peroxide 10%	E	E	-	E
Hydrogen Peroxide 100%	E	E	-	E
Hydrogen Peroxide 30%	E	E	E	E
Hydrogen Peroxide 50%	E	E	E	-
Hydrogen Sulfide (aqua)	G	E	-	E
Hydrogen Sulfide (dry)	E	-	-	-
Hydroquinone	G	-	-	-
Hydroxyacetic Acid 70%	U	-	-	-
Ink	L	-	-	-
Iodine	E	-	-	L
Iodine (in alcohol)	E	-	-	-
Iodoform	E	-	-	-
Isocetane	E	G	-	U
Isopropyl Acetate	U	U	-	-
Isopropyl Ether	G	U	-	-

Chemical Resistance Data

Environmental Resistance Table: *E-Excellent, G-Good, L-Limited, U-Unsatisfactory*

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used **ONLY** as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Isotane	E	-	-	-
Jet Fuel (JP3, JP4, JP5)	L	E	-	U
Kerosene	E	U	-	U
Ketones	U	U	-	U
Lacquer Thinners	U	G	-	U
Lacquers	U	U	-	U
Lactic Acid	G	G	E	E
Lard	E	E	-	E
Lead Acetate	G	-	-	E
Lead Nitrate	E	-	-	E
Lead Sulfamate	G	E	-	-
Lime	G	-	-	-
Linoleic Acid	E	-	-	-
Lithium Chloride	U	G	-	-
Lithium Hydroxide	-	U	-	-
Lubricants	G	E	-	L
Lye: Ca(OH) ₂ Calcium Hydroxide	G	U	-	E
Lye: KOH Potassium Hydroxide	G	U	-	E
Lye: NaOH Sodium Hydroxide	E	U	-	E
Magnesium Bisulfate	E	E	-	-
Magnesium Carbonate	G	E	E	E
Magnesium Chloride	G	E	E	E
Magnesium Hydroxide	E	E	G	E
Magnesium Nitrate	E	E	-	E
Magnesium Oxide	-	-	-	-
Magnesium Sulfate (Epsom Salts)	E	E	E	E
Maleic Acid	E	-	-	E
Malic Acid	E	-	-	-
Manganese Sulfate	L	E	-	E
Mayonnaise	U	-	-	-
Melamine	U	-	-	-
Mercuric Chloride (dilute)	E	E	-	E
Mercuric Cyanide	E	-	-	-
Mercurous Nitrate	E	E	-	E
Mercury	E	U	-	E
Methane	G	-	-	-
Methanol (Methyl Alcohol)	E	G	L	E
Methyl Acetate	U	U	-	-
Methyl Acetone	U	-	-	-
Methyl Alcohol 10%	E	G	-	E
Methyl Bromide	U	-	-	-
Methyl Butyl Ketone	E	U	-	-
Methyl Cellosolve	U	U	-	-
Methyl Chloride	U	U	-	U
Methyl Dichloride	E	-	-	-
Methyl Ethyl Ketone	U	U	E	U
Methyl Isobutyl Ketone	U	U	-	U
Methyl Isopropyl Ketone	U	U	-	U
Methyl Methacrylate	E	-	-	-
Methylamine	U	-	-	-
Methylene Chloride	U	U	U	U
Mineral Spirits	E	L	-	E
Monochloroacetic acid	-	U	-	-
Monoethanolamine	U	-	-	E
Morpholine	-	U	-	U
Motor oil	G	E	-	E
Naphtha	E	G	E	U
Naphthalene	U	-	-	U
Natural Gas	E	-	-	-
Nickel Chloride	E	E	-	E

Chemical	PVC Himeline HE - Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Nickel Nitrate	E	U	-	E
Nickel Sulfate	E	E	-	E
Nitrating Acid (<15% HNO ₃)	U	-	-	-
Nitrating Acid (>15% H ₂ SO ₄)	U	-	-	-
Nitrating Acid (1% Acid)	U	-	-	-
Nitrating Acid (15% H ₂ SO ₄)	U	-	-	-
Nitric Acid (20%)	E	G	G	G
Nitric Acid (50%)	G	G	-	G
Nitric Acid (5-10%)	E	E	-	E
Nitric Acid (Concentrated)	G	L	-	G
Nitrobenzene	U	U	L	U
Nitromethane	G	U	-	U
Nitrous Acid	E	-	-	-
Nitrous Oxide	E	-	-	-
Oils:Aniline	U	-	-	U
Oils:Citric	G	E	-	E
Oils:Creosote	L	-	-	U
Oils:Diesel Fuel (20, 30, 40, 50)	G	-	-	U
Oils:Fuel (1, 2, 3, 5A, 5B, 6)	E	G	-	E
Oils:Hydraulic Oil (Petro)	E	-	-	-
Oils:Hydraulic Oil (Synthetic)	E	-	-	-
Oils:Mineral	G	G	-	E
Oils:Olive	L	E	-	E
Oils:Orange	L	L	-	-
Oils:Pine	U	E	-	-
Oils:Rosin	L	-	-	-
Oils:Silicone	E	-	-	E
Oils:Transformer	G	-	-	-
Oils:Turbine	E	-	-	-
Oleic Acid	L	-	E	E
Oleum 100%	U	-	-	E
Oleum 25%	U	-	-	-
Oxalic Acid (cold)	G	-	E	E
Ozone	G	E	-	-
Palmitic Acid	G	-	-	-
Paraffin	G	E	-	E
Pentane	E	E	-	-
Perchloric Acid	L	-	-	-
Perchloroethylene	L	U	-	U
Petrolatum	G	-	-	-
Petroleum	-	-	-	U
Phenol (10%)	L	G	L	U
Phenol (Carbolic Acid)	U	U	-	U
Phosphoric Acid (>40%)	G	E	-	E
Phosphoric Acid (crude)	G	E	-	E
Phosphoric Acid (molten)	U	-	-	-
Phosphoric Acid (40%)	G	E	-	E
Phosphoric Acid Anhydride	-	U	-	-
Phosphorus	E	-	-	-
Phosphorus Trichloride	U	L	-	-
Photographic Developer	E	E	-	E
Photographic Solutions	E	E	-	E
Phthalic Anhydride	U	E	-	-
Picric Acid	U	U	-	-
Potash (Potassium Carbonate)	E	-	L	E
Potassium Bicarbonate	E	-	-	E
Potassium Bromide	E	E	-	E
Potassium Chlorate	E	E	-	E
Potassium Chloride	E	E	E	E
Potassium Chromate	E	-	E	E

Chemical Resistance Data

Environmental Resistance Table: *E-Excellent, G-Good, L-Limited, U-Unsatisfactory*

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used **ONLY** as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC	Polycarbonate	FRP	Noryl	Chemical	PVC	Polycarbonate	FRP	Noryl
	Himeline HE - Opaque Cover w/Base	Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	(Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Circuit Safe Medium JIC		Himeline HE - Opaque Cover w/Base	Circuit Safe NEMA Circuit Safe JIC Himeline HE - Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	(Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Circuit Safe Medium JIC
Potassium Cyanide Solutions	E	-	-	E	Stannic Chloride	E	E	-	E
Potassium Dichromate	E	E	-	E	Stannic Fluoborate	-	-	-	E
Potassium Ferricyanide	E	-	E	E	Stannous Chloride	E	-	-	E
Potassium Ferrocyanide	E	-	E	E	Stearic Acid	G	E	-	E
Potassium Hydroxide (Caustic Potash)	E	U	L	E	Stoddard Solvent	L	E	-	U
Potassium Hypochlorite	G	-	-	-	Styrene	U	U	-	E
Potassium Iodide	E	-	-	-	Sulfate (Liquors)	G	-	-	-
Potassium Nitrate	E	E	E	E	Sulfur Chloride	L	-	-	E
Potassium Oxalate	-	-	-	-	Sulfur Dioxide	E	-	-	E
Potassium Permanganate	E	E	E	E	Sulfur Dioxide (dry)	E	E	-	E
Potassium Sulfate	E	E	E	E	Sulfur Hexafluoride	G	-	-	-
Potassium Sulfide	E	-	-	E	Sulfur Trioxide	E	-	-	U
Propane (liquefied)	E	L	-	E	Sulfur Trioxide (dry)	E	-	-	U
Propylene	G	-	-	-	Sulfuric Acid (<10%)	E	E	E	E
Propylene Glycol	L	G	-	-	Sulfuric Acid (10-75%)	E	G	U	E
Pyridine	U	U	-	G	Sulfuric Acid (75-100%)	U	U	-	E
Pyrogalllic Acid	E	-	-	-	Sulfuric Acid (cold concentrated)	U	-	-	E
Resorcinol	L	G	-	-	Sulfuric Acid (hot concentrated)	U	U	-	U
Rosins	L	-	-	-	Sulfurous Acid	E	-	-	E
Salicylic Acid	G	E	-	-	Tallow	-	-	-	E
Salt Brine (NaCl saturated)	E	E	-	E	Tannic Acid	E	L	-	E
Sea Water	E	E	-	E	Tanning Liquors	E	-	-	E
Silicone	E	E	-	E	Tartaric Acid	E	-	E	E
Silver Bromide	-	-	-	-	Tetrachloroethane	L	-	-	U
Silver Nitrate	-	-	-	E	Tetrachloroethylene	U	U	-	U
Soap Solutions	E	E	-	E	Tetrahydrofuran	U	U	L	U
Soda Ash (see Sodium Carbonate)	E	E	-	E	Tin Salts	E	-	-	-
Sodium Acetate	G	E	E	E	Toluene (Toluol)	U	U	-	U
Sodium Aluminate	-	-	-	E	Trichloroacetic Acid	G	U	-	-
Sodium Benzoate	G	E	-	-	Trichloroethane	L	U	-	U
Sodium Bicarbonate	E	E	E	E	Trichloroethylene	U	-	U	U
Sodium Bisulfate	E	E	-	E	Trichloropropane	-	-	-	U
Sodium Bisulfite	E	E	-	E	Tricresylphosphate	U	-	-	E
Sodium Borate (Borax)	E	E	-	E	Triethylamine	G	-	-	G
Sodium Bromide	G	-	E	E	Trisodium Phosphate	E	-	-	E
Sodium Carbonate	E	E	-	E	Turpentine	U	U	E	U
Sodium Chlorate	E	E	E	E	Urea	U	U	L	E
Sodium Chloride	E	E	E	E	Uric Acid	E	-	-	-
Sodium Chromate	-	E	-	E	Varnish	U	-	-	U
Sodium Cyanide	E	-	-	E	Vinegar	G	E	E	E
Sodium Ferrocyanide	E	-	E	E	Vinyl Acetate	U	-	-	-
Sodium Fluoride	E	-	-	E	Vinyl Chloride	U	-	-	-
Sodium Hydrosulfite	L	-	-	-	Water, Acid, Mine	G	G	-	-
Sodium Hydroxide (20%)	E	E	U	E	Water, Deionized	E	-	-	E
Sodium Hydroxide (50%)	E	U	U	E	Water, Distilled	E	E	-	E
Sodium Hydroxide (80%)	E	U	U	E	Water, Fresh	G	E	-	E
Sodium Hypochlorite (<20%)	E	L	L	E	Water, Salt	G	E	-	E
Sodium Hypochlorite (100%)	G	-	-	E	Whiskey & Wines	E	E	-	E
Sodium Metaphosphate	E	-	-	-	White Liquor (Pulp Mill)	E	-	-	E
Sodium Metasilicate	E	-	-	-	White Water (Paper Mill)	E	-	-	U
Sodium Nitrate	E	-	U	E	Xylene	U	U	E	G
Sodium Perborate	E	-	-	E	Zinc Chloride	G	E	E	E
Sodium Peroxide	G	E	-	-	Zinc Hydrosulfite	-	-	-	E
Sodium Polyphosphate	E	-	-	E	Zinc Sulfate	E	E	E	E
Sodium Silicate	E	-	-	E					
Sodium Sulfate	E	E	E	E					
Sodium Sulfide	E	U	U	E					
Sodium Sulfite	E	-	E	E					
Sodium Tetraborate	E	-	-	E					
Sodium Thiosulfate (hypo)	E	U	-	E					