

#### DESCRIPTION

Polywater® Type RP™ Rapid Power medium voltage cable cleaner evaporates quickly without the health and safety issues of other volatile cable cleaners. It effectively cleans semi-conducting cable shield, corrosion-inhibiting compound, silicone greases, filling gels, transformer oils, and many other contaminants found in electrical construction and maintenance.

Type RP leaves no residue, has excellent dielectric properties, and is nonconductive. Type RP is compatible with most materials and plastics, including polycarbonate.

Type RP is available in convenient presaturated towelettes. Use of individual towels limits solvent exposure and eliminates spill hazard.

#### CLEANING PROPERTIES

Type RP meets IEEE 1493 performance criteria.<sup>1</sup> It effectively cleans semi-conducting cable shield. A towel saturated with cleaner quickly removes the compound and becomes visibly black.

Type RP Cleaner dissolves a broad range of contaminants.

Type RP has excellent solvency across a broad spectrum of grimes. Contaminant grease is spread onto a polyethylene plaque with 6mm-thick ribbons. The plaque is immersed in RP Cleaner and agitated. Cleaning time is noted.

CONTAMINANT	CLEANING TIME
Silicone grease, DC #4	<60 seconds
Dielectric oil	<30 seconds
Hydrocarbon grease	<30 seconds
Aluminum oxide grease	<60 seconds

<sup>1</sup> Tested using methods from IEEE 1493, "Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories." Type RP IEEE 1493 Lab Report.



*Type RP Rapid Power is fast evaporating and effective*

#### PRODUCT FEATURES

- **Safe:** Excellent alternative to brominated and chlorinated solvents.
- **Versatile:** Available in PEL-PAC® towelettes or aerosol cans.
- **Fast Evaporation:** Evaporates quickly and leaves no residue.
- **Tested:** High dielectric strength of 56kV meets IEEE 1493.
- **Proven:** Approved by medium voltage cable manufacturers.

#### END USE

- Splicing and terminating cables
- Cleaning relays, generators, motors, circuit boards, and other electrical equipment
- Maintaining transformers and switchgear
- Preparing surfaces for adhesives, sealants, and tapes

## PHYSICAL PROPERTIES

Type RP is a high-purity solvent blend with enhanced solubility.

PROPERTY	RESULT
Flash point (ASTM D93)	19°F (-7°C)
Initial boiling point	144°F (62°C)
Specific gravity	0.72

## PERFORMANCE PROPERTIES

PROPERTY	RESULT
Cleaning effectiveness	Excellent
Dielectric strength	56 kV
Evaporation rate	Fast (similar to alcohol)
Residue (ASTM D2369)	<100 pmm (None)

## ENVIRONMENTAL IMPACT

Type RP is a safer alternative to chlorinated solvents.

PROPERTY	RESULT
VOC content	720 grams/liter
Global warming potential	Does not contain global warming compounds
Ozone depletion potential	None
RCRA	Characteristic waste (Ignitable, D001)
CERCLA/SARA status	Not regulated as a hazardous substance

## SAFETY

Type RP has a low level of toxicity and contains no listed carcinogens. It is flammable and should not be exposed to fire or flame. Towelette package limits hazard. Good industrial hygiene practice and appropriate precautions should be employed during use. See SDS for specific details.

## DIRECTIONS FOR USE

To prepare cable for splice, buff the insulation with the abrasive strip to remove any remaining conductive material. The surface should be smooth with no particle contaminants.

Clean the cable insulation with Type RP Cleaning Wipe. Wipe away from the conductor towards the insulation shield. Turn the solvent towelette after each wipe, using a fresh portion of the towel each time. Do not wipe insulation shield and do not get any semi-conductive material on the insulation. RP Wipes can also be used to clean the cable jacket to improve adhesion of mastics and tapes used in splicing and termination.

For general electrical cleaning, follow manufacturer's instruction. Type RP wipes are fast evaporating. Do not open until ready to use.

## PEL PAC® SYSTEM

The Type RP presaturated towelette is a convenient package with multiple safety benefits.

### Control

Presaturated wipes minimize solvent exposure on sensitive electrical parts. Directly spraying or immersing the part allows the solvent to puddle into small openings. Wipe cleaning also ensures faster solvent evaporation.

### Safety

The presaturated towelette package eliminates spill hazard and limits solvent vapor exposure. Wipes contain a carefully measured quantity of solvent and are an excellent way to control vapor. Type RP presaturated towelettes are a great choice for underground or confined space applications.

### Convenience

Each PEL-PAC package utilizes non-linting, non-tearing towels. Clean wipes are always available, eliminating recontamination of parts with dirty rags.



Convenient presaturated towelettes (RP-1L, RP-1) control solvent exposure

## COMPATIBILITY

Type RP is compatible with most plastics and rubbers. It meets standard electrical utility test requirements based on IEEE 1493.

### Plastic Materials—LLDPE

LLDPE jacket material immersed in Type RP Cleaner retains tensile and elongation characteristics and shows minimal weight change.<sup>1</sup>

### Rubber Materials—EPDM and Silicone Rubber

Platen samples of EPDM and silicone rubber immersed in Type RP Cleaner retain tensile and elongation characteristics and show minimal weight change.<sup>1</sup>

### Volume Resistivity of Cable Insulation Shield

Cables with either XLPE or EPR insulation show acceptable volume resistivity values after immersion in Type RP.<sup>1</sup> After exposure to the cleaner, volume resistivity measurements return to control levels.

### Corrosivity

Type RP will not corrode or stain metal parts. It does not tarnish or corrode copper.<sup>2</sup>

### Polycarbonate

Injection-molded plaques of polycarbonate are cut into bars and bent in a three-point fixture. "Strain limit" is the greatest percent strain where no stress cracking occurs. A strain limit greater than 0.5% indicates strain resistance.

Strain Limit > 0.5% (Stress Crack Resistant)<sup>3</sup>

<sup>1</sup> Tested using methods from IEEE 1493, "Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories."

<sup>2</sup> Testing based on ASTM D130, "Standard Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test."

<sup>3</sup> Testing based on Mobay Corporation, Plastics and Rubber Division, "Chemical Compatibility Test for Unreinforced Thermoplastic Resins, 1989."

## SOAK TESTING

Materials are immersed in Type RP for 7 days at 22°C (72°F). Some rubbers will swell but should return to their original state once the cleaner evaporates. Wipe cleaning minimizes solvent exposure.

PLASTICS	% WEIGHT CHANGE	APPEARANCE
ABS	+4.09	NC
Acrylic	+0.59	SS
Delrin®	+0.07	NC
Epoxy	+1.77	NC
Nylon 66	+0.16	NC
Nylon 101	+0.14	NC
Polycarbonate	+0.09	NC
Phenolic	+6.64	NC
Noryl	+0.63	NC
PVC	+0.43	NC
Teflon®	+0.01	NC
Tygon®	-1.26	NC
Ultem® 1000	-0.04	NC
Valox® 420	+0.01	NC
HDPE	+2.39	NC
LDPE	+4.95	NC
SAN	+0.00	NC
ELASTOMERS	% WEIGHT CHANGE	APPEARANCE
Neoprene®	-12.48	H
Nitrile	-4.93	NC
SBR	-9.15	NC
Viton®	+2.52	NC
Natural rubber	+0.25	NC
EPDM	-26.56	H

### KEY:

NC = No Change                      C = Crazing  
S = Swelling                        SS = Slight Swelling  
ES = Extreme Softening        H = Hardens

Testing based on ASTM D543, "Standard Test Method for Resistance of Plastics to Chemical Reagents."

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## MODEL SPECIFICATION

*The statement below may be inserted into a customer specification to help maintain engineering standards and ensure work integrity.*

The cleaner shall not leave a residue and shall be fast evaporating (similar to alcohol). The cleaner shall not significantly affect the volume resistivity of Union Carbide 0691 XLPE cable insulation shield. The cleaner shall show a voltage withstand of at least 40 kV before breakdown.

The cleaner shall not significantly affect the tensile and elongation properties of XLPE, silicone rubber, and EPDM rubber when tested to guidelines proposed in IEEE 1493. When wiped over an XLPE (Union Carbide Type 0691) insulation shield, a clean towel wetted with the cleaner shall become visibly “black” with two wipes over 2 inches (50 mm) of cable length with light hand pressure.

## ORDER INFORMATION

CAT #	PACKAGE DESCRIPTION
RP-1	Saturated 5-in x 8-in/13 cm x 20 cm Wipe 96/case
RP-1L	Saturated 8-in x 12-in/20 cm x 30 cm Wipe 144/case
RP-P63	6 – Type RP Cleaning Wipes (cat # RP-1) 3 – Strips Sanding Cloth 1 – Instruction Card 12/case
RP-16	475 ml (16 oz) Aerosol Can 12/case
RP-35LF	1-quart/0.95-liter Bottle with flip top 12/case
RP-128	1-gallon/3.8-liter Bottle 4/case
RP-640	5-gallon/18.9-liter Can

## CONTACT US

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**IMPORTANT NOTICE:** The statements here are made in good faith based on tests and observations we believe to be reliable. However, the completeness and accuracy of the information is not guaranteed. Before using, the end-user should conduct whatever evaluations are necessary to determine that the product is suitable for the intended use.

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