

## Cable Recommendations for Common Coolants Used in Harsh Environments

| Fluid Manufacturer | Product               | ÖLFLEX® 90, 150, 190, 890, 891 | ÖLFLEX® VFD, VFD with Signal VFD SLIM, TRAY II | UNITRONIC® 190, UNITRONIC® 300 | ÖLFLEX® 855 P, 796 CP, 440 P, 540 P | ÖLFLEX® 491 P, 891 P, 900 P | ÖLFLEX® 490 P, 590 P | ÖLFLEX® CRF | ÖLFLEX® HEAT 180 EWKF | ÖLFLEX® HEAT 180 SiHF | HAR Hook-up Wire | SKINTOP® Clamps |
|--------------------|-----------------------|--------------------------------|------------------------------------------------|--------------------------------|-------------------------------------|-----------------------------|----------------------|-------------|-----------------------|-----------------------|------------------|-----------------|
|                    |                       | PVC                            | PVC                                            | PVC                            | PUR                                 | PUR                         | PUR                  | TPE         | Silicone              | Silicone              | Neo              | PA              |
| Argent             | H-114-LS              | G                              | E                                              | *                              | E                                   | —                           | G                    | —           | —                     | —                     | —                | —               |
| Argent             | H-114-M               | E                              | G                                              | *                              | G                                   | F                           | G                    | E           | G                     | *                     | E                | —               |
| Argent             | MS-5710-CG            | G                              | E                                              | G                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Argent             | MS5710F               | E                              | E                                              | G                              | G                                   | G                           | F                    | E           | E                     | E                     | E                | —               |
| Armour             | Lard                  | E                              | G                                              | *                              | G                                   | E                           | E                    | —           | E                     | E                     | *                | E               |
| Blaser Swiss       | Vasco 1000/Art.2800   | E                              | E                                              | F                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| Blaser Swiss       | Grindex Univ./Art.882 | E                              | E                                              | G                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| Blaser Swiss       | Grindex Univ./Art892  | F                              | F                                              | G                              | G                                   | *                           | *                    | E           | E                     | E                     | E                | —               |
| Buckeye            | Safe-T-Fluid #4       | E                              | E                                              | *                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| Buckeye            | Safe-T-Oil #4         | E                              | E                                              | *                              | G                                   | E                           | E                    | E           | G                     | E                     | E                | —               |
| Buckeye            | CT9612                | E                              | G                                              | *                              | E                                   | —                           | G                    | —           | —                     | —                     | —                | —               |
| Castrol            | WY1-938A              | E                              | G                                              | G                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | WY3-010C              | E                              | E                                              | *                              | E                                   | *                           | G                    | —           | G                     | F                     | E                | E               |
| Castrol            | Syntillo 1023         | G                              | E                                              | G                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | WS3-020A              | G                              | G                                              | F                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | Cleardge 6519         | E                              | E                                              | G                              | G                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | Cleardge 6550         | G                              | E                                              | F                              | G                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | Superedge 6768        | E                              | E                                              | *                              | F                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | GTX-SW30- Oil         | E                              | G                                              | *                              | G                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | Type F Transmission   | E                              | E                                              | E                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | DEXRON III Mercon     | E                              | E                                              | *                              | E                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Castrol            | Cooledge 8600         | E                              | G                                              | *                              | *                                   | *                           | E                    | G           | G                     | E                     | E                | —               |
| Castrol            | Ilogrind FGO Series   | E                              | G                                              | *                              | F                                   | G                           | E                    | E           | E                     | E                     | E                | —               |
| Chem Tech          | CT9612 (2)            | E                              | G                                              | F                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| Chem Tech          | Tech Cool 3404MG      | E                              | G                                              | *                              | G                                   | E                           | E                    | —           | E                     | E                     | E                | E               |
| Chlorox            | Sodium Hypochlorite   | E                              | G                                              | G                              | F                                   | F                           | F                    | —           | E                     | E                     | *                | F               |
| Cin. Millicron     | Milpro 6000           | E                              | E                                              | *                              | E                                   | E                           | E                    | E           | E                     | E                     | E                | —               |
| Cin. Millicron     | Quantalube 270        | E                              | E                                              | *                              | E                                   | G                           | G                    | E           | E                     | E                     | E                | —               |
| CITGO              | Citcool 22 Conc.      | E                              | E                                              | *                              | F                                   | G                           | G                    | —           | —                     | E                     | E                | E               |
| CITGO              | Citcool 33 Conc.      | E                              | E                                              | E                              | F                                   | G                           | G                    | —           | —                     | E                     | E                | E               |
| CITGO              | Sentry 19             | E                              | E                                              | *                              | G                                   | E                           | E                    | —           | —                     | E                     | G                | E               |
| CITGO              | Cutting Oil NC 205    | E                              | E                                              | *                              | *                                   | F                           | G                    | —           | —                     | *                     | *                | E               |
| CITGO              | Cutting Oil NC 215    | E                              | E                                              | *                              | F                                   | F                           | E                    | —           | —                     | *                     | *                | E               |
| CLC Lubr.          | CLC Finish HX-65      | E                              | G                                              | F                              | E                                   | E                           | E                    | —           | E                     | E                     | E                | E               |
| D.A. Stuart        | Excelene 420          | E                              | E                                              | *                              | G                                   | —                           | —                    | —           | —                     | —                     | —                | —               |

E = Excellent (no measurable changes)  
\* = Consult sales rep for design assistance

G = Good (slight change)  
— = Not tested

F = Noticeable change

Note: lubricating oils/coolants, water soluble oils & emulsions and commercial products are tested at 60°C for 5 days. Paint solvents are tested at 23°C for 5 days. Not all products tested are listed above. If the cable series you need is not listed above, call your Lapp sales representative for assistance.

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| Fluid Manufacturer | Product              | ÖLFLEX® 90, 150, 190, 890, 891 | ÖLFLEX® VFD, VFD with Signal VFD SLIM, TRAY II | UNITRONIC® 190, UNITRONIC® 300 | ÖLFLEX® 855 P, 796 CP, 440 P, 540 P | ÖLFLEX® 491 P, 891 P, 900 P | ÖLFLEX® 490 P, 590 P | ÖLFLEX® CRF | ÖLFLEX® HEAT 180 EW/KF | ÖLFLEX® HEAT 180 SiHF | HAR Hook-up Wire | SKINTOP® Clamps |
|--------------------|----------------------|--------------------------------|------------------------------------------------|--------------------------------|-------------------------------------|-----------------------------|----------------------|-------------|------------------------|-----------------------|------------------|-----------------|
|                    |                      | PVC                            | PVC                                            | PVC                            | PUR                                 | PUR                         | PUR                  | TPE         | Silicone               | Silicone              | Neo              | PA              |
| D.A. Stuart        | Dascool Nobalt KM    | E                              | G                                              | G                              | G                                   | E                           | E                    | E           | E                      | E                     | E                | —               |
| EPP Tech           | 400 Klear Kool       | G                              | G                                              | F                              | G                                   | —                           | —                    | —           | —                      | —                     | —                | —               |
| Fuchs Lubr.        | GK225                | E                              | G                                              | *                              | G                                   | F                           | G                    | G           | G                      | *                     | G                | —               |
| Fuchs Lubr.        | Renogrind FG16       | G                              | G                                              | *                              | F                                   | G                           | E                    | —           | —                      | G                     | F                | E               |
| Fuchs Lubr.        | CPD 7003             | E                              | E                                              | *                              | G                                   | E                           | E                    | —           | —                      | F                     | G                | E               |
| Fuchs Lubr.        | ECOSYN 975 (4%)      | E                              | E                                              | E                              | E                                   | E                           | G                    | E           | E                      | E                     | E                | —               |
| Fuchs Lubr.        | ECOSYN 2205 CO       | E                              | E                                              | E                              | G                                   | G                           | E                    | —           | —                      | G                     | E                | E               |
| Fuchs Lubr.        | Melsol Supersol      | E                              | G                                              | *                              | E                                   | G                           | G                    | —           | F                      | F                     | E                | E               |
| Fuchs Lubr.        | Tuf Draw 2806-M-100  | E                              | E                                              | E                              | E                                   | E                           | E                    | E           | E                      | E                     | E                | —               |
| G-C Lubr.          | Kool Grind 900N      | E                              | G                                              | *                              | F                                   | G                           | E                    | —           | —                      | F                     | F                | E               |
| G-C Lubr.          | Kool Grind 960       | E                              | E                                              | *                              | F                                   | E                           | E                    | G           | E                      | F                     | F                | E               |
| G-C Lubr.          | Aqua Kool PTC        | E                              | G                                              | *                              | F                                   | F                           | G                    | —           | —                      | G                     | *                | E               |
| G-C Lubr.          | Aqua Syn 55          | E                              | F                                              | E                              | G                                   | G                           | G                    | —           | —                      | G                     | E                | E               |
| G-C Lubr.          | SintoGrind TT        | E                              | E                                              | *                              | E                                   | E                           | E                    | G           | E                      | E                     | E                | —               |
| Hangsterfers       | Missie Lube #1XL     | G                              | G                                              | *                              | G                                   | E                           | E                    | —           | —                      | F                     | G                | E               |
| Hangsterfers       | Missie Lube #1XXL    | G                              | G                                              | *                              | G                                   | F                           | E                    | —           | —                      | F                     | E                | —               |
| Hangsterfers       | Crystal Cut #322     | E                              | G                                              | E                              | F                                   | F                           | F                    | —           | —                      | G                     | F                | —               |
| Hangsterfers       | Crystal Cut #322 @5% | E                              | G                                              | E                              | E                                   | E                           | G                    | —           | —                      | G                     | G                | —               |
| Hangsterfers       | R-100                | E                              | E                                              | E                              | E                                   | E                           | E                    | —           | E                      | E                     | G                | E               |
| Hangsterfers       | R-100 @ 5%           | E                              | G                                              | E                              | E                                   | G                           | E                    | —           | —                      | E                     | G                | —               |
| Hangsterfers       | S500CF               | E                              | E                                              | *                              | F                                   | G                           | F                    | —           | G                      | *                     | G                | E               |
| Hangsterfers       | S500CF@10%           | E                              | G                                              | E                              | G                                   | F                           | E                    | —           | —                      | E                     | G                | —               |
| Hangsterfers       | Hard Cut 5418        | E                              | E                                              | *                              | F                                   | G                           | E                    | E           | E                      | G                     | E                | —               |
| Hangsterfers       | Way Oil #2           | G                              | F                                              | *                              | G                                   | E                           | E                    | —           | —                      | *                     | E                | —               |
| Hangsterfers       | Antiwear 32          | G                              | E                                              | G                              | G                                   | E                           | E                    | —           | —                      | *                     | E                | —               |
| Hangsterfers       | Antiwear 66          | G                              | E                                              | G                              | G                                   | E                           | E                    | —           | —                      | *                     | E                | —               |
| Hanilo             | 171                  | E                              | E                                              | *                              | F                                   | E                           | E                    | E           | *                      | *                     | E                | —               |
| Humoco             | Iodine               | G                              | G                                              | E                              | *                                   | E                           | G                    | E           | E                      | G                     | E                | —               |
| Itech              | CT9612 (3)           | E                              | G                                              | *                              | E                                   | —                           | E                    | —           | —                      | —                     | —                | —               |
| J & J              | Mineral Oil          | E                              | G                                              | *                              | E                                   | E                           | E                    | —           | F                      | E                     | G                | E               |
| Lubrisystems       | Lubra-Cut UMC        | E                              | E                                              | E                              | F                                   | G                           | E                    | —           | —                      | E                     | G                | —               |
| Master Chem.       | Trim O D250          | E                              | G                                              | F                              | G                                   | F                           | E                    | G           | G                      | E                     | E                | —               |
| Master Chem.       | Trim VHP E210        | E                              | E                                              | G                              | *                                   | G                           | G                    | E           | E                      | E                     | E                | —               |
| Master Chem.       | Trim WB 9303 12 2    | E                              | E                                              | *                              | E                                   | *                           | G                    | G           | F                      | F                     | E                | —               |
| Mobile             | Mobile Met Upsilon   | G                              | G                                              | *                              | G                                   | —                           | E                    | —           | —                      | —                     | —                | —               |

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|--------------------|------------------------|--------------------------------|------------------------------------------------|--------------------------------|-------------------------------------|-----------------------------|----------------------|-------------|-----------------------|-----------------------|------------------|-----------------|
|                    |                        | PVC                            | PVC                                            | PVC                            | PUR                                 | PUR                         | PUR                  | TPE         | Silicone              | Silicone              | Neo              | PA              |
| Mobile             | DTE 11M                | E                              | E                                              | *                              | G                                   | G                           | E                    | G           | E                     | E                     | E                | —               |
| Mobile             | DTE FM 32              | E                              | E                                              | *                              | E                                   | G                           | E                    | G           | E                     | F                     | E                | —               |
| Monsanto           | Glacier Motor          | E                              | E                                              | G                              | G                                   | G                           | E                    | E           | E                     | G                     | E                | —               |
| Motorex            | SwissCool 7300 CF      | E                              | G                                              | F                              | F                                   | E                           | G                    | —           | E                     | G                     | E                | E               |
| Mullen             | 1270-4                 | E                              | G                                              | *                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| NASCO              | Acetone                | *                              | *                                              | *                              | E                                   | F                           | *                    | E           | E                     | E                     | G                | —               |
| National Oil       | Nocco Grind (11) Conc. | G                              | E                                              | *                              | F                                   | G                           | E                    | —           | —                     | G                     | F                | E               |
| National Oil       | Nocco Grind (11) 10%   | E                              | F                                              | E                              | G                                   | G                           | G                    | —           | —                     | E                     | E                | E               |
| National Oil       | Nocco Grind 11         | E                              | E                                              | *                              | E                                   | E                           | E                    | G           | E                     | G                     | E                | —               |
| National Oil       | Nocco Grind Modl       | E                              | E                                              | *                              | E                                   | E                           | E                    | G           | E                     | G                     | E                | —               |
| Novamax            | Circlene #FG 20AMO     | G                              | E                                              | F                              | E                                   | —                           | G                    | —           | —                     | —                     | —                | —               |
| Novamax            | Circlene #FG 67        | G                              | G                                              | *                              | G                                   | —                           | G                    | —           | —                     | —                     | —                | —               |
| Quaker             | 13413                  | E                              | E                                              | *                              | E                                   | —                           | E                    | —           | —                     | —                     | —                | —               |
| Rustick            | WS-500A                | E                              | E                                              | *                              | F                                   | F                           | G                    | —           | —                     | F                     | *                | E               |
| Solutia            | MCS-2638               | E                              | G                                              | *                              | G                                   | F                           | G                    | E           | E                     | E                     | E                | —               |
| Spartan            | Carbide Grinder        | G                              | G                                              | F                              | E                                   | —                           | E                    | —           | —                     | *                     | —                | —               |
| Spartan            | Synspar GP             | G                              | G                                              | G                              | G                                   | —                           | —                    | —           | —                     | *                     | —                | —               |
| Spartan            | Cutter EXP             | E                              | E                                              | G                              | F                                   | —                           | —                    | —           | —                     | *                     | —                | —               |
| STP                | Dot 3 Brake Fluid      | G                              | G                                              | F                              | *                                   | *                           | *                    | E           | E                     | E                     | E                | —               |
| STP                | Dot 4 Brake Fluid      | G                              | G                                              | G                              | *                                   | —                           | —                    | —           | —                     | —                     | —                | —               |
| Texaco             | Rando Oil HD 26        | E                              | E                                              | *                              | E                                   | G                           | E                    | —           | —                     | *                     | E                | —               |
| Texaco             | Cleartex D             | E                              | E                                              | *                              | G                                   | G                           | E                    | —           | —                     | E                     | F                | E               |
| Texaco             | Oil Coolant Reno 488   | E                              | G                                              | *                              | F                                   | F                           | E                    | —           | —                     | F                     | *                | E               |
| Uni-Pro            | Pro Cool 3000          | E                              | G                                              | F                              | G                                   | *                           | G                    | —           | E                     | G                     | F                | E               |
| WD-40              | WD-40                  | E                              | E                                              | *                              | G                                   | G                           | E                    | E           | E                     | F                     | E                | —               |
| Wesson             | Vegetable Oil          | E                              | G                                              | *                              | F                                   | E                           | E                    | —           | E                     | G                     | G                | E               |
| Westmont           | Bio-Cool 55            | E                              | G                                              | G                              | G                                   | E                           | G                    | —           | E                     | G                     | E                | E               |
| Yushiro Chem.      | Yushiron Oil #2        | E                              | E                                              | *                              | F                                   | G                           | E                    | —           | —                     | *                     | E                | —               |
| Zip Strip          | Denaturated Alcohol    | E                              | G                                              | *                              | G                                   | G                           | E                    | E           | G                     | E                     | E                | —               |
| Zip Strip          | MEK                    | *                              | *                                              | *                              | *                                   | *                           | *                    | E           | E                     | E                     | G                | —               |
| Zip Strip          | Naphtha                | E                              | E                                              | E                              | E                                   | E                           | E                    | G           | E                     | E                     | E                | —               |
| Zip Strip          | Toulene                | *                              | *                                              | *                              | G                                   | G                           | G                    | G           | E                     | E                     | G                | —               |
| Zip Strip          | Xylene                 | F                              | *                                              | *                              | G                                   | G                           | G                    | G           | F                     | G                     | G                | —               |
| Zip Strip          | Turpentine             | E                              | E                                              | *                              | E                                   | E                           | E                    | G           | E                     | E                     | E                | —               |

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# Cable Chemical Resistance

- Not tested
- ☒ Good resistance  
no to slight reaction
- ✖ Moderate resistance  
slight to moderate reaction
- ✖ Low/no resistance  
moderate to strong reaction

All tests were performed at a temperature of +20°C.

| Chemical                                                  | ÖLFLEX® SMART 108, CLASSIC 100/110, SERVO 2VSLCY/9VSLCY | ÖLFLEX® FD 90/90 CY, 150 QUATTRO, 190, 890, 191/191 CY, FD, TRAY II, VFD cables, SERVO 709 CY, SERVO TC, AUTO-I, CONTROL TM/TM CY, FORTIS, SERVO cables per SEW® & SIEMENS® 6FX 5008, UNITRONIC® 300 | ÖLFLEX® CLASSIC 110 SY/110 CY, 100 CY | PUR-jacketed cables: ÖLFLEX® CLASSIC 400 P/CP, 490 P, 540 P/CP, 590 P, SERVO 795 P, SERVO 796 CP, 855 P/CP, FD 891 P, ROBOT 900, F1, PUR S, CRANE PUR, SERVO cables per SIEMENS® FX 8 Plus, UNITRONIC® FD P, LIYD 11Y, FD CP/CP (TP), FD Plus, PUR; HITRONIC® POF (PUR) | ÖLFLEX® CRANE, round & flat | ÖLFLEX® CRANE 2S, LIFT F, POWER IX, H07RN-F, LIFY single core | ÖLFLEX® HEAT 180 |
|-----------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|------------------|
| <b>Inorganic Chemicals</b>                                |                                                         |                                                                                                                                                                                                      |                                       |                                                                                                                                                                                                                                                                         |                             |                                                               |                  |
| Alums, cold-saturated concentration                       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Aluminum salts, any concentration                         | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Ammonia, aqueous, 10% concentration                       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Ammonium acetate, aqueous, any concentration              | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Ammonium carbonate, aqueous, any concentration            | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Ammonium chloride, aqueous, any concentration             | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Barium salts, any concentration                           | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Boric acid, aqueous                                       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Calcium chloride, aqueous, cold-saturated concentration   | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Calcium nitrate, aqueous, cold-saturated concentration    | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ✖                |
| Chromium salts, aqueous, cold-saturated concentration     | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Potassium carbonate, aqueous (potash)                     | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ✖                           | ☒                                                             | ☒                |
| Potassium chlorate, aqueous, cold-saturated concentration | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Potassium chloride, aqueous, cold-saturated concentration | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Potassium dichromate, aqueous                             | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Potassium iodide, aqueous                                 | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Potassium nitrate, aqueous, cold-saturated concentration  | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Potassium permanganate, aqueous                           | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ✖                                                             | ☒                |
| Potassium sulfate, aqueous                                | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Copper salts, aqueous, cold-saturated concentration       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Magnesium salts, aqueous, cold-saturated concentration    | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Sodium bicarbonate, aqueous (natron)                      | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Sodium bisulfate, aqueous                                 | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ✖                           | ☒                                                             | ☒                |
| Sodium chloride, aqueous (table salt)                     | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Sodium thiosulfate, aqueous (fixing salt)                 | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Nickel salts, aqueous, cold-saturated concentration       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Phosphoric acid, 50% concentration                        | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ✖                |
| Mercury, 100% concentration                               | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Mercury salts, aqueous, cold-saturated concentration      | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Nitric acid, 30% concentration                            | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ✖                           | ✖                                                             | ✖                |
| Hydrochloric acid, concentrated                           | ✖                                                       | ☒                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ✖                           | ✖                                                             | ✖                |
| Sulfur, 100% concentration                                | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Sulfur dioxide, gaseous                                   | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Carbon disulfide                                          | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ✖                           | ✖                                                             | ✖                |
| Hydrogen sulfide                                          | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Sea water                                                 | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Silver salts, aqueous                                     | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Hydrogen peroxide, 3% concentration                       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Zinc salts, aqueous                                       | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ✖                |
| Tin(II) chloride                                          | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| <b>Organic Chemicals</b>                                  |                                                         |                                                                                                                                                                                                      |                                       |                                                                                                                                                                                                                                                                         |                             |                                                               |                  |
| Ethanol, 100% concentration                               | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ✖                                                             | ☒                |
| Formic acid, 30% concentration                            | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ✖                                                                                                                                                                                                                                                                       | ☒                           | ✖                                                             | —                |
| Petrol                                                    | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ☒                                                                                                                                                                                                                                                                       | ✖                           | ✖                                                             | ✖                |
| Succinic acid, aqueous, cold-saturated concentration      | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Acetic acid, 20% concentration                            | ✖                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Hydraulic oil                                             | ✖                                                       | ✖                                                                                                                                                                                                    | ✖                                     | ☒                                                                                                                                                                                                                                                                       | ✖                           | ✖                                                             | —                |
| Isopropanol, 100% concentration                           | ✖                                                       | ☒                                                                                                                                                                                                    | ✖                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ✖                                                             | ☒                |
| Machinery oil                                             | ✖                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Methanol, 100% concentration                              | ✖                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Oxalic acid, aqueous, cold-saturated concentration        | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Cutting oil                                               | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | —                |
| Plant-based oils & fats                                   | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Tartaric acids, aqueous                                   | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | —                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |
| Citric acids                                              | ☒                                                       | ☒                                                                                                                                                                                                    | ☒                                     | ☒                                                                                                                                                                                                                                                                       | ☒                           | ☒                                                             | ☒                |

The information presented in this table is accurate to the best of our knowledge and experience.

However, it must be treated as a non-binding guideline only; in many cases, tests must be carried out under working conditions to reach a definitive conclusion.

# Cable Chemical Resistance

- Not tested
- ☒ Good resistance  
no to slight reaction
- ✖ Moderate resistance  
slight to moderate reaction
- ✖ Low/no resistance  
moderate to strong reaction

All tests were performed at a temperature of +20°C.

| Chemical                                                  | TPE-jacketed cables; ÖLFLEX® HEAT 205/260, CRF, HF Tray Plus, SDP, AUTO-X, CONTROL M | Halogen-free cables; UNITRONIC® H-(ST)H, NHXMH, HF TRAY | HITRONIC® fiber optic cables | ÖLFLEX® TC 600, POWER QUAD II, C304, D304, I304, UNITRONIC® 190, 100 CY, LIYY, LIYCY, LI2YCY (TP), LI2YCY PIMF, FD/FD CY, FD 890, computer cables; HITRONIC® FD/FD CY, POF (PVC) | ÖLFLEX® CRANE NSHTÖU, NSGAFOU, CRANE 2S, H01N2-D, H05RN-F, H07RN-F, H07RN8-F | LIY single cores, H05V-K, H07V-K, LIYF, Multi-standard SC 1/SC 2.1 | ÖLFLEX® ROBUST 200, 210, 215 C |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------|
| <b>Inorganic Chemicals</b>                                |                                                                                      |                                                         |                              |                                                                                                                                                                                  |                                                                              |                                                                    |                                |
| Alums, cold-saturated concentration                       | ☒                                                                                    | ☒                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Aluminum salts, any concentration                         | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Ammonia, aqueous, 10% concentration                       | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | —                                                                            | ☒                                                                  | ☒                              |
| Ammonium acetate, aqueous, any concentration              | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ✖                                                                            | ☒                                                                  | ☒                              |
| Ammonium carbonate, aqueous, any concentration            | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Ammonium chloride, aqueous, any concentration             | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Barium salts, any concentration                           | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Boric acid, aqueous                                       | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Calcium chloride, aqueous, cold-saturated concentration   | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Calcium nitrate, aqueous, cold-saturated concentration    | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Chromium salts, aqueous, cold-saturated concentration     | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ✖                              |
| Potassium carbonate, aqueous (potash)                     | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Potassium chlorate, aqueous, cold-saturated concentration | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ✖                                                                            | ☒                                                                  | ☒                              |
| Potassium chloride, aqueous, cold-saturated concentration | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Potassium dichromate, aqueous                             | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Potassium iodide, aqueous                                 | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | —                              |
| Potassium nitrate, aqueous, cold-saturated concentration  | —                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Potassium permanganate, aqueous                           | ☒                                                                                    | —                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | ☒                              |
| Potassium sulfate, aqueous                                | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Copper salts, aqueous, cold-saturated concentration       | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Magnesium salts, aqueous, cold-saturated concentration    | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Sodium bicarbonate, aqueous (natron)                      | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Sodium bisulfate, aqueous                                 | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Sodium chloride, aqueous (table salt)                     | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Sodium thiosulfate, aqueous (fixing salt)                 | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Nickel salts, aqueous, cold-saturated concentration       | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Phosphoric acid, 50% concentration                        | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Mercury, 100% concentration                               | ☒                                                                                    | ☒                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Mercury salts, aqueous, cold-saturated concentration      | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Nitric acid, 30% concentration                            | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Hydrochloric acid, concentrated                           | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Sulfur, 100% concentration                                | ☒                                                                                    | ☒                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ✖                              |
| Sulfur dioxide, gaseous                                   | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Carbon disulfide                                          | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Hydrogen sulfide                                          | ☒                                                                                    | —                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ✖                              |
| Sea water                                                 | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Silver salts, aqueous                                     | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Hydrogen peroxide, 3% concentration                       | ☒                                                                                    | ☒                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ✖                              |
| Zinc salts, aqueous                                       | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Tin(II) chloride                                          | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| <b>Organic Chemicals</b>                                  |                                                                                      |                                                         |                              |                                                                                                                                                                                  |                                                                              |                                                                    |                                |
| Ethanol, 100% concentration                               | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | ☒                              |
| Formic acid, 30% concentration                            | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | —                              |
| Petrol                                                    | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Succinic acid, aqueous, cold-saturated concentration      | ☒                                                                                    | ☒                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Acetic acid, 20% concentration                            | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | ☒                              |
| Hydraulic oil                                             | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Isopropanol, 100% concentration                           | ☒                                                                                    | ☒                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | ☒                              |
| Machinery oil                                             | ☒                                                                                    | ☒                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Methanol, 100% concentration                              | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ☒                                                                            | ✖                                                                  | ☒                              |
| Oxalic acid, aqueous, cold-saturated concentration        | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ✖                                                                            | ☒                                                                  | ☒                              |
| Cutting oil                                               | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Plant-based oils & fats                                   | ☒                                                                                    | ✖                                                       | ✖                            | ✖                                                                                                                                                                                | ✖                                                                            | ✖                                                                  | ✖                              |
| Tartaric acids, aqueous                                   | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |
| Citric acids                                              | ☒                                                                                    | ✖                                                       | ☒                            | ☒                                                                                                                                                                                | ☒                                                                            | ☒                                                                  | ☒                              |

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