## CHEMICAL RESISTANCE

## **HYCHEM HYCRETE**

A 3 COMPONENT POLYURETHANE CEMENT FLOOR TOPPING



The resistance against chemicals was tested at 23°C according to DIN 50014-23/50-2. The coating was exposed to the various testing chemicals according to DIN 53168. The evaluation results are based on a number of criteria including the samples appearance, hardness, weight gain or weight loss and other physical properties.

**Evaluation:** ✓ Resistant — Conditional resistant **X** Not resistant

|   |                               | artional resistant           | . W HOL TOSIStant            |
|---|-------------------------------|------------------------------|------------------------------|
| TESTING LIQUID  | Short-term<br>stress<br>1 day | Lasting<br>stress<br>10 days | Durable<br>stress<br>42 days |
| Inorganic sodium solutions  |                               |                              |                              |
| Aqueous hydrogen peroxide solution 35%                                | 1                             | 1                            | <b>✓</b>                     |
| Aqueous sodium acetate solution 35%                                   | /                             | 1                            | 1                            |
| Aqueous sodium carbonate solution 20%                                 | 1                             | V                            | ✓                            |
| Aqueous sodium sulphide solution 35%                                  | 1                             | ✓                            | ✓                            |
| Aqueous potassium permanganate solution 5%                            | 1                             | 1                            | <b>✓</b>                     |
| Aqueous sodium chloride 20% (WHG 12)                                  | /                             | 1                            | ✓                            |
| Aqueous washing-liquid-concentrate solution 50% (WHG 14)              | /                             | 1                            | ✓                            |
| Oil, petrol, automobile   |                               |                              |                              |
| Iso-octane  | /                             | 1                            | ✓                            |
| Gasoline (WHG 1)  | /                             | 1                            | ✓                            |
| Diesel/heating fuel (WHG 3)   | /                             | 1                            | ✓                            |
| Lubricating oil (WHG 4b)  | /                             | 1                            | ✓                            |
| Brake fluid   | /                             | 1                            | ✓                            |
| Cooling concentrate automobiles                                       | 1                             | ✓                            | ✓                            |
| Alcoholics, glycols   |                               |                              |                              |
| Methanol / = methyl alcohol (WHG 5a)                                  | /                             | 1                            | ✓                            |
| Ethanol / = ethyl alcohol   | /                             | 1                            | ✓                            |
| Iso-butanol / = butyl alcohol   | /                             | ✓                            | ✓                            |
| Methanol 48%, iso-propanol / = propylic alcohol 48%, water 4% (WHG 5) | /                             | 1                            | ✓                            |
| Benzyl alcohol  | /                             | 1                            | ✓                            |
| O-cresol  | /                             | -                            | ×                            |
| Ethylene glycol   | /                             | ✓                            | ✓                            |
| Propylene glycol  | /                             | ✓                            | ✓                            |

| TESTING LIQUID                               | Short-term<br>stress<br>1 day | Lasting<br>stress<br>10 days | Durable<br>stress<br>42 days |
|--|-------------------------------|------------------------------|------------------------------|
| Acids, organic                               |                               |                              |                              |
| Formic acid 20%                              | /                             | 1                            | ✓                            |
| Acetic acid 10% (WHG 9)                      | /                             | ✓                            | ✓                            |
| Acetic acid 20%                              | /                             | ✓                            | ✓                            |
| Acetic acid 60%                              | /                             | 1                            | ✓                            |
| Acetic acid 100%                             | /                             | 1                            | ✓                            |
| 50% Acetic acid, 50% propionic acid (WHG 9a) | /                             | 1                            | ✓                            |
| Acetic acid anhydride                        | /                             | 1                            | ✓                            |
| Lactic acid 10%                              | /                             | 1                            | ✓                            |
| Octane acid                                  | /                             | 1                            | ✓                            |
| Oil acid                                     | /                             | 1                            | 1                            |
| Citric acid 20%                              | 1                             | 1                            | 1                            |
| Butter                                       | /                             | 1                            | 1                            |
| Acids, inorganic                             |                               |                              |                              |
| Hydrofluoric acid 4%                         | /                             | 1                            | ✓                            |
| Hydrofluoric acid 20%                        | /                             | _                            | ×                            |
| Hexa-fluorine-silicid acid                   | /                             | 1                            | ✓                            |
| Perchloric acid 70%                          | /                             | ×                            | ×                            |
| Phosphoric acid 80%                          | /                             | 1                            | ✓                            |
| Nitric acid 25%                              | 1                             | 1                            | 1                            |
| Nitric acid 53%                              | /                             | 1                            | _                            |
| Nitric acid 65%                              | 1                             | _                            | X                            |
| Hydrochloric acid 15%                        | /                             | 1                            | _                            |
| Hydrochloric acid 37%                        | 1                             | V                            | ✓                            |
| Sulphuric acid 20% (WHG 10)                  | /                             | 1                            | ✓                            |
| Sulphuric acid 80%                           | /                             | _                            | ×                            |



| TESTING LIQUID                            | Short-term<br>stress<br>1 day | Lasting<br>stress<br>10 days | Durable<br>stress<br>42 days |
|---|-------------------------------|------------------------------|------------------------------|
| Hydroxide                                 | '                             |                              |                              |
| Ammonia 10 %                              | 1                             | ✓                            | 1                            |
| Ammonia 25 %                              | 1                             | 1                            | ✓                            |
| Potassium hydroxide 10%                   | 1                             | ✓                            | ✓                            |
| Potassium hydroxide 45%                   | 1                             | ✓                            | ✓                            |
| Sodium hydroxide 20% (WHG 11)             | 1                             | 1                            | 1                            |
| Amine, amide                              |                               |                              |                              |
| Aniline                                   | 1                             | 1                            | 1                            |
| Di-isopropylic amine                      | 1                             | ✓                            | _                            |
| Dimethylformamide                         | ×                             | ×                            | ×                            |
| Aldehyde, ketone                          |                               |                              |                              |
| Aqueous formaldehyde solution 37% (WHG 8) | <b>✓</b>                      | ✓                            | 1                            |
| Acetone                                   | <b>✓</b>                      | _                            | ×                            |
| Methyl ethyl ketone                       | <b>✓</b>                      | _                            | ×                            |
| Methyl isobutyl ketone                    | 1                             | _                            | _                            |
| 1-Methyl pyrrolidone                      | ×                             | ×                            | ×                            |
| Methyl ethyl ketone peroxide              | <b>✓</b>                      | 1                            | 1                            |
| Solvents                                  |                               |                              |                              |
| Acetonitrile                              | _                             | ×                            | ×                            |
| Butyl acetate                             | 1                             | ✓                            | _                            |
| Ethyl acetate                             | 1                             | -                            | ×                            |
| Diethyl ether                             | 1                             | ✓                            | 1                            |
| Tetrahydrofurane                          | 1                             | -                            | X                            |
| Xylene                                    | 1                             | ✓                            | ✓                            |
| Toluene                                   | 1                             | ✓                            | 1                            |
| Hexane                                    | 1                             | ✓                            | ✓                            |



| TESTING LIQUID  | Short-term<br>stress<br>1 day | Lasting<br>stress<br>10 days | Durable<br>stress<br>42 days |
|---|-------------------------------|------------------------------|------------------------------|
| Chlorinated hydrocarbons  |                               |                              |                              |
| Monochlorobenzene (WHG 6b)  | 1                             | _                            | ×                            |
| Tetrachloroethylene   | 1                             | 1                            | _                            |
| Methylene chloride  | /                             | _                            | ×                            |
| WHG-testing classes   |                               |                              | '                            |
| Gasoline (WHG 1)  | /                             | 1                            | /                            |
| 50% Iso-octane, 50% toluene (WHG 2-1)                                 | 1                             | /                            | /                            |
| Diesel/heating fuel (WHG 3)   | /                             | /                            | /                            |
| Benzene, toluene, xylene, methyl naphthaline (WHG 4a)                 | /                             | /                            | /                            |
| Lubricating oil (WHG 4b)  | /                             | /                            | /                            |
| Methanol 48%, iso-propanol / = propylic alcohol 48%, water 4% (WHG 5) | /                             | /                            | /                            |
| Trichloroethylene (WHG 6)   | /                             | /                            | _                            |
| 50% Ethyl acetate, 50% methyl isobutyl ketone (WHG 7)                 | 1                             | /                            | 1                            |
| 50% Salicylic acid methylene ester, 50% acetophenone (WHG 7a)         | 1                             | /                            | _                            |
| Aqueous formaldehyde solution 37% (WHG 8)                             | 1                             | /                            | /                            |
| Acetic acid 10% (WHG 9)   | 1                             | /                            | 1                            |
| 50% Acetic acid, 50% propionic acid (WHG 9a)                          | 1                             | /                            | 1                            |
| Sulfuric acid 20% (WHG 10)  | 1                             | /                            | 1                            |
| Sodium hydroxide 20% (WHG 11)   | 1                             | /                            | 1                            |
| Aqueous sodium chloride 20% (WHG 12)                                  | 1                             | /                            | /                            |
| Aqueous washing-liquid-concentrate solution 50% (WHG 14)              | 1                             | /                            | /                            |

In principle, discoloration of the topping due to chemical exposure cannot be excluded. However it is important to note that changes in colour or surface staining does not affect the integrity nor the performance of the applied system. For chemicals not referred to in the supplied lists Hychem suggest you refer all enquiries to our head office technical department for advice.

## Disclaimer

All tests were carried out under laboratory conditions to comply with both DIN 50014-23/50-2 & DIN 53168.

The technical information provided in this document is based on the most accurate information available at the time.

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Practical applications, conditions and operations can vary greatly and as a consequence results and performance can be affected. These variations are often not possible to simulate and out of our control.

