## **Plastics - Chemical Resistance Chart**

| Material   | Formula           | Acids -<br>concentrated |               | Alcohols      | Alkalis       | Aromatic hydrocarbons | Greases and Oils | Halogenated<br>Hydrocarbons | Halogens | Ketones   |
|--|-------------------|-------------------------|---------------|---------------|---------------|-----------------------|------------------|-----------------------------|----------|-----------|
| Cellulose Acetate Butyrate                                 | CAB               | -                       | Fair-<br>Poor | Poor          | Fair-<br>Poor | Poor                  | Good-Poor        | Poor                        | Poor     | Poor      |
| Ethylene-<br>Chlorotrifluoroethylene<br>copolymer          | E-CTFE            | Good                    | Good          | Good          | Good          | Good                  | Good             | Good-Fair                   | Good     | Good      |
| Ethylene-<br>Tetrafluoroethylene<br>Copolymer              | ETFE              | Good                    | Good          | Good          | Good          | Good                  | Good             | Good                        | Good     | Good      |
| Fluorinated Ethylene<br>Propylene Copolymer                | FEP               | Good                    | Good          | Good          | Good          | Good                  | Good             | Good                        | Good     | Good      |
| Polyacrylonitrile-<br>butadiene-styrene                    | ABS               | Good-Poor               | Good          | Good-<br>Poor | Good          | Poor                  | Good             | Poor                        | Poor     | Poor      |
| Polyamide - Nylon 6  | PA 6              | Poor                    | Poor          | Good          | Good-<br>Fair | Good                  | Good             | Good-Poor                   | Poor     | Good      |
| Polyamide - Nylon 6, 6                                     | PA 6,6            | Poor                    | Poor          | Good          | Good-<br>Fair | Good                  | Good             | Good-Poor                   | Poor     | Good      |
| Polyamide - Nylon 6, 6 -<br>30% Carbon Fiber<br>Reinforced | PA 6, 6 - 30% CFR | Poor                    | Poor          | Good          | Good-<br>Fair | Good                  | Good             | Good-Poor                   | Poor     | Good-Poor |
| Polyamide - Nylon 6, 6 -<br>30% Glass Fiber<br>Reinforced  | PA 6,6 30% GFR    | Poor                    | Poor          | Good          | Good-<br>Fair | Good                  | Good             | Good-Poor                   | Poor     | Good-Poor |

| Material  | Formula      | Acids -<br>concentrated |               | Alcohols      | Alkalis       | Aromatic<br>hydrocarbons | Greases and<br>Oils | Halogenated<br>Hydrocarbons | Halogens  | Ketones   |
|---|--------------|-------------------------|---------------|---------------|---------------|--------------------------|---------------------|-----------------------------|-----------|-----------|
| Polyamide - Nylon 12  | PA 12        | Poor                    | Fair-<br>Poor | Fair          | Good-<br>Fair | Good                     | Good                | Good-Poor                   | Poor      | Good-Fair |
| Polyamide/imide   | PAI          | Fair-Poor               | Fair          | Good-<br>Poor | Poor          | Good                     | Good                | Good-Poor                   | Good-Poor | Good      |
| Polybenzimidazole   | PBI          | Poor                    | Fair-<br>Poor | Good          | Good-<br>Poor | Good                     | Good                | Good                        | -         | Good      |
| Polybutylene terephthalate                                    | PBT          | Good-Poor               | Good          | Good          | Fair          | Good                     | Good                | Good-Poor                   | Poor      | Good-Poor |
| Polybutylene terephthalate<br>- 30% Glass Fiber<br>Reinforced | PBT 30% GFR  | Good-Poor               | Good          | Good          | Fair          | Good                     | Good                | Good-Poor                   | Poor      | Good-Poor |
| Polycarbonate   | PC           | Good                    | Good          | Good          | Good-<br>Poor | Poor                     | Good-Fair           | Good-Poor                   | Poor      | Poor      |
| Polycarbonate - 30%<br>Carbon Fiber Reinforced                | PC - 30% CFR | Fair                    | Good          | Good          | Poor          | Poor                     | Good                | -                           | Poor      | Poor      |
| Polycarbonate - 30% Glass<br>Fiber Filled                     | PC - 30% GFR | Fair                    | Good          | Good          | Poor          | Poor                     | Good                | -                           | Poor      | Poor      |
| Polychlorotrifluoroethylene                                   | PCTFE        | Good                    | Good          | Good          | Good          | Good                     | Good                | -                           | Good      | Good      |
| Polyetheretherketone  | PEEK         | Good-Poor               | Good          | Good          | Good          | Good                     | Good                | Good                        | Good-Poor | Good-Poor |
| Polyetherimide  | PEI          | Good(-Fair?)            | Good          | Good          | Good-<br>Poor | Poor                     | Good                | Good-Poor                   | -         | Poor      |
| Polyethersulfone  | PES          | Good-Poor               | Good          | Good          | Good          | Good                     | Good-Fair           | Good                        | Fair-Poor | Good      |
| Polyethylene - Carbon<br>filled                               | PE           | Fair                    | Good          | Good          | -             | -                        | -                   | -                           | -         | Fair      |
| Polyethylene - High<br>density                                | HDPE         | Good-Fair               | Good          | Good          | Good          | Fair                     | Good-Fair           | Fair-Poor                   | Fair-Poor | Good-Fair |
| Polyethylene - Low Density                                    | LDPE         | Good-Fair               | Good          | Good          | Good          | Fair-Poor                | Good-Fair           | Fair-Poor                   | Fair-Poor | Good-Fair |
| Polyethylene - U.H.M.W.                                       | UHMW PE      | Good-Fair               | Good          | Good          | Good          | Fair                     | Good-Fair           | Fair-Poor                   | Fair-Poor | Good-Fair |
|   |              |                         |               |               |               |                          |                     |                             |           |           |

| Material  | Formula                        | Acids -<br>concentrated | Acids -<br>dilute | Alcohols         | Alkalis       | Aromatic hydrocarbons | Greases and<br>Oils | Halogenated<br>Hydrocarbons | Halogens  | Ketones     |
|---|--------------------------------|-------------------------|-------------------|------------------|---------------|-----------------------|---------------------|-----------------------------|-----------|-------------|
| Polyethylene terephthalate                                      | Polyester, PET, PETP           | Good-Poor               | Good              | Good             | Poor          | Good-Fair             | Good                | Good-Poor                   | Fair-Poor | Good-Fair   |
| Polyimide   | PI                             | Poor                    | Fair              | Poor             | Poor          | Good                  | Good                | Good                        | Fair      | Good        |
| Polymethylmethacrylate  | PMMA, Acrylic                  | Good-Poor               | Good-<br>Poor     | Good-<br>Poor    | Good          | Poor                  | Good                | Poor                        | Poor      | Poor        |
| Polymethylpentene   | TPX®                           | Good-Fair               | Good              | Good             | Good          | Fair-Poor             | Good-Fair           | Fair-Poor                   | Fair-Poor | Good-Fair   |
| Polyoxymethylene -<br>Copolymer                                 | Acetal - Copolymer<br>POMC     | Poor                    | Good-<br>Fair     | Good-<br>Fair    | Good          | Good                  | Good                | Good-Poor                   | Poor      | Good - Fair |
| Polyoxymethylene -<br>Homopolymer                               | Acetal - Homopolymer<br>POMH   | Poor                    | Poor -<br>Fair    | Good-<br>Fair    | Poor          | Good                  | Good                | Good-Poor(?)                | Poor      | Good - Fair |
| Polyphenyleneoxide  | PPO (modified), PPE (modified) | Good-Fair               | Good              | Good             | Good          | Poor                  | Good-Poor           | Fair-Poor                   | Poor      | Poor        |
| Polyphenyleneoxide<br>(modified), 30% Glass<br>Fiber Reinforced | PPO 30% GFR                    | Good-Fair               | Good              | Good             | Good          | Poor                  | Good-Poor           | Fair-Poor                   | Poor      | Poor        |
| Polyphenylenesulfide -<br>40% Glass Fiber<br>Reinforced         | PPS - 40% GFR                  | Good-Poor               | Good              | Good             | Good          | Good                  | Good                | Good-Poor                   | Good-Poor | Good        |
| Polypropylene   | PP                             | Good-Fair               | Good-<br>Fair     | Good             | Good          | Fair                  | Good-Fair           | Good-Poor                   | Poor      | Good        |
| Polystyrene   | PS                             | Fair-Poor               | Good-<br>Fair     | Good-<br>Fair    | Good-<br>Fair | Poor                  | Good-Poor           | Poor                        | Poor      | Poor        |
| Polystyrene - Cross-linked                                      | PS - X - Linked                | Fair-Poor               | Good(-<br>Fair?)  | Good(-<br>Fair?) | Good-<br>Fair | Poor                  | Fair-Poor           | Poor                        | Poor      | Poor        |
| Polysulphone  | PSu                            | Fair                    | Good              | Good             | Good          | Fair                  | Good                | -                           | Good      | Poor        |
| Polytetrafluoroethylene   | PTFE                           | Good                    | Good              | Good             | Good          | Good                  | Good                | Good                        | Good      | Good        |
| Polytetrafluoroethylene filled with Glass                       | PTFE 25% GF                    | Poor                    | Good              | Good             | Good-<br>Fair | Good                  | Good                | Good                        | Good      | Good        |
| Polyvinylchloride -<br>Unplasticized                            | UPVC                           | Good-Poor               | Good              | Good             | Good          | Poor                  | Good                | Fair-Poor                   | Fair      | Poor        |
| Polyvinylidenechloride  | PVDC                           | Good-Fair               | Good              | Good             | Good          | Fair                  | Good                | -                           | -         | Fair        |

| Material   | Formula            | Acids -<br>concentrated |               | Alcohols      |               | Aromatic hydrocarbons | Greases and<br>Oils | Halogenated<br>Hydrocarbons | Halogens  | Ketones   |
|--|--------------------|-------------------------|---------------|---------------|---------------|-----------------------|---------------------|-----------------------------|-----------|-----------|
| Polyvinylidenefluoride   | PVDF               | Good                    | Good          | Good          | Fair          | Good                  | Good                | Good-Fair                   | Good-Poor | -         |
| Silicone Elastomer   | MQ /VNQ /PMQ /PVMQ | Good-Poor               | Good-<br>Poor | Good-<br>Fair | Good-<br>Fair | Poor                  | Good-Poor           | Poor                        | Poor      | Poor      |
| Tetrafluoroethylene-<br>perfluoro(alkoxy vinyl<br>ether) - Copolymer | PFA. Teflon PFA.   | Excellent               | Excellent     | Excellent     | Excellent     | Excellent             | Excellent           | -                           | Excellent | Excellent |

All information and technical data are given as a guide only. Although every effort has been made to ensure that the information is correct, no warranty is given as to its completeness

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