316 Stainless steel

One of the most popular materials used in chromatography applications. Physical strength and the best chemical resistance of all 300-series stainless steels make it ideal for HPLC use. Up to 250°C, excellent thread strength, pH Range 1-14, autoclavable, sterilization techniques: gamma irradiation; ethylene oxide; thermal.

PEEK

Chemicals which interact with PEEK polymer are not pH dependent; rather by other physical properties of the chemical. PEEK is not recommended for use with nitric acid, sulfuric acid, or halogenated acids (ie. hydrofluoric, hydrobromic, and hydroiodic acids (hydrochloric acid is approved for most applications) and pure halogenated gases. Be cautious when using methylene chloride, THF, and DMSO due to a swelling effect. Up to 100 °C (tubing) and 125 °C (fittings), excellent thread strength, pH Range 0 – 14, autoclavable, sterilization techniciques: gamma irradiation; ethylene oxide; thermal.

Tefzel® ETFE (Ethylene Tetrafluoroethylene)

Tefzel® is a relative of PTFE and is highly chemically resistant. It is an excellent material choice for sealing surfaces and for applications utilizing aggressive solvents. It is also used for low pressure threaded products and adapters. Some chlorinated solvents may interact and degrade or swell the polymer slightly. Up to 80 °C, good thread strength, pH Range 0 – 14, autoclavable, sterilization techniques: ethylene oxide.

Vespel®

Vespel® is a polyimide material most often used with valves. While often adequate for use in systems where the chemicals do not go out of the pH range of 1 to 10, Vespel is susceptible to alkaline attack. Avoid the use of ammonia, hydrazines, amines, and any solution that surpasses pH 10 as well as strong oxidizing agents. Up to 200 °C, excellent thread strength, pH Range 1-10, autoclavable, sterilization techniques: gamma irradiation.

FEP

FEP is Melt-processed alternative to PTFE. It exhibits many similar properties to PTFE, while being melt-processable it allows for a lower gas permeability and improved optical clarity. Up to 50 °C, Good thread strength, pH Range 0-14, autoclavable, sterilization techniques: Ethylene Oxide, thermal.

IDEX/Rheodyne Material Guide-Continued

RPC-10

A proprietary polymer combination.

RPC-13

A proprietary polymer combination.

PFA

PFA is a good, general replacement for PTFE. PFA is slightly more expensive but offers a higher maximum recommended use temperature for more demanding temperature applications. It also offers less impurities for sensitive applications. Up to 80 °C, Good thread strength, pH Range 0-14, autoclavable, sterilization techniques: Ethylene Oxide, thermal.

**Information IDEX/RHEODYNE (www.idex-hs.com)*

