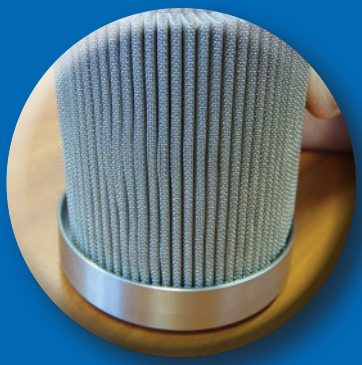
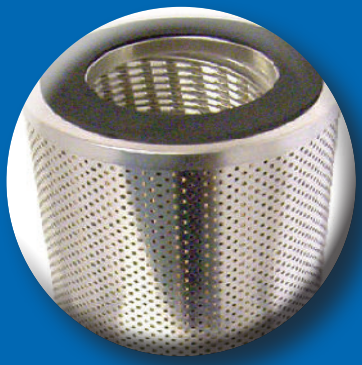
Permabond Adhesives for Filters





Permabond®

Engineering Adhesives

Adhesives for Filters

Permabond offers a range of adhesive technologies suitable for bonding a wide variety of filters, filter substrates, sieves and filter mesh screens. Adhesive products have been developed to offer excellent resistance to water, fuel, oil and other chemicals, and are able to bond to most materials commonly found in filter assemblies. Permabond also offers helpful technical support and custom formulations to match your requirements.

Application: Mesh panel bonding of filter for chocolate processing machine

- High viscosity, high strength adhesive with good adhesion to stainless steel
- FDA-Food grade epoxy - safe to use in contact with food and beverages
- Tack-free, inert finish
- Resistant to cleaning chemicals

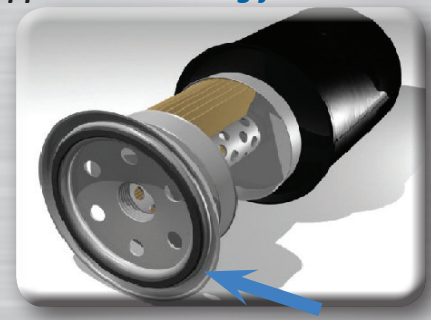
Adhesive used: Permabond ET5147

Application: Bonding filter assemblies to end plates

Metal filter assemblies can be welded to the end cap but more often manufacturers prefer to use single part epoxies to bond the filter assembly. The adhesives offer a simpler process which does not damage the media as welding can and also provide additional assurance of seal because the epoxy is used as a potting compound and a bonding agent.

Adhesive used: Permabond ES550

Application: Sealing filter seams



Rolled seams are found in oil filters, fuel filters and air filters. They are formed by cold rolling the edges of two metal flanges like the lid of a tin can. Generally the "can" is rotated while a stationary set of rollers moves in to crimp the can closed.

Anaerobic sealants and rubber based solvent sealants are used to seal this seam. Rubber based solvent sealants appear less expensive but when reject rates, hazardous shipping and disposal costs are factored in there is no cost advantage. Solvent based products also require the use of more sealant per part and because only about 33% of the material is made up of solids, the other 66% is released into the atmosphere or into costly solvent recovery units.

Benefits of Permabond anaerobic sealants:

- More environmentally friendly
- Non-flammable
- 100% solids
- Application process can be easily automated
- Fluoresce under UV black light for easy in line QC inspection
- Excellent resistance to water, oil, petrol and other chemicals

Adhesive used: Permabond HH040

Application: Bonding rubber gaskets to filter base plates

Elastomeric gaskets are found on the base plates of oil filters, hydraulic fluid filters, pharmaceutical filters, biomedical filters and food and beverage filters. In oil filters, cyanoacrylate adhesives are generally used to bond the gasket to the outside of the base plate as they offer a rapid cure speed and are oil and gasoline resistant. This gasket helps to seat the oil filter properly when it is installed on the engine.

Adhesive used: Permabond 910

Application: Bonding polypropylene filter housing

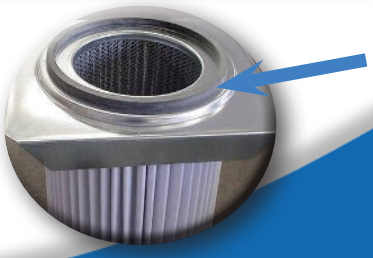
Polypropylene and other low surface energy plastics are used extensively in filter applications, either as filter housings or as filter media and cartridges and have historically been very difficult to bond. Permabond's new TA46XX range of polyolefin bonding adhesives provide a high strength bonding solution. In this PP + PP filter housing application, where contaminated oil is filtered, the adhesive is subjected to 4 bar of pressure, oil emersion and temperatures of 50°C to 60°C constant.

Adhesive used: Permabond TA4611

Application: End cap potting

- Low viscosity adhesive for potting pleated filter media
- Excellent resistance to water, fuel etc.
- Flexible with high peel strength

Adhesive used: Permabond MT382



Product selector

Permabond now offers a range of two-part epoxy adhesives formulated to comply with: ***FDA 175.105 & 175.300 and EU 10/2011.*** Our development team can assist with products to suit your cure time parameters, viscosity requirements, strength and durability performance. These products are ideal for use on filters, strainers and equipment in both the production industry as well as catering and domestic kitchen equipment sectors as the adhesive is safe for contact with food and drink.

Features	Typical Applications	Colour	Cure method	Viscosity (mPa.s)	Gap fill	Handling time	Shear strength steel (MPa)	Temp' range (°C)
Permabond ET5147 Food safe (FDA compliant)	Bonding water filters Bonding mesh filters/sieves for food processing Bonding industrial beverage filters Production line food preparation & kitchen equipment	Off-white	• 2-part • 2:1 mix ratio • Room temp cure	Thixotropic	2.0	3-5 hours	18-20	-40 to +120
Permabond ET5161 Food safe (EU 10/2011 compliant) High strength on stainless steel	Stainless steel bonding in food contact applications Filter mesh to frame - Sieve filters Filter media to end caps	Off-white	• 2-part • 1:1 mix ratio • Room temp cure	Lightly Thixotropic	2.0	70 mins	20	-55 to +120
Permabond ET5365 WRAS drinking water approved Smoooth surface finish	Drinking water filters Filter media to end caps	Grey	• 2 Part • 2:1 mix ratio • Easy apply • Room temp cure	Thixotropic	0.8	2-4 hours	14-16	-40 to +120
Permabond MT382 Flexible with high peel strength Self levelling, low viscosity.	Bonding filter media End cap potting	Charcoal Black	• 2-part modified • 2:1 mix ratio • Room temp cure	13,000-30,000	0.5	105-120 mins	4-7	-40 to +120
Permabond HH040 High viscosity anaerobic sealant. Fluoresces under UV black light. Available with NSF water approval (HH040 PURE)	Crimp sealant - sealing rolled seams	Green	• No mix • Room temp anaerobic cure	5,000	0.25	15 mins	14	-55 to +150
Permabond ES550 Toughened epoxy, excellent chemical and temperature resistance	Bonding wire mesh into filter end caps Side seam bonding	Silver Grey	• No mix • Heat cure (oven) or induction	Paste	0.2	60 mins (full strength at 150°C oven cure)	27-41	-40 to +180
Permabond TA437 Structural acrylic Excellent chemical & temperature resistance	Bonding Nylon end caps to filters	Orange / Red	• No mix • Room temp cure • Optional initiator activated cure (Initiator 41)	Thixotropic	0.5	15-20 mins 1-3 mins (+ Initiator 41)	14-20	-55 to +200
Permabond TA4605 Polyolefin bonder for low surface energy plastics Fast cure Good impact strength Good chemical resistance	Polypropylene & polyethylene cartridge filters, filter media, end caps, rubber gaskets Polypropylene & polyethylene filter housings	Off-white	• 2 -part • 1:1 Mix ratio • Room temp cure	Mixed: 125,000	1	20-25 mins	Polypropylene: 5-8* Polyethylene: 3-6*	-55 to +100
Permabond TA4610 Polyolefin bonder for low surface energy plastics Slower cure for larger parts Good impact strength Good chemical resistance	Polypropylene & polyethylene cartridge filters, filter media, end caps, rubber gaskets Polypropylene & polyethylene filter housings	Off-white	• 2-part • 1:1 Mix ratio • Room temp cure	Mixed: 210,000	1	40-50 mins	Polypropylene: 5-8* Polyethylene: 3-6*	-55 to +100
Permabond TA4611 Polyolefin bonder for low surface energy plastics Slower cure for larger parts For smaller gaps Good impact strength Good chemical resistance	Polypropylene & polyethylene cartridge filters, filter media, end caps, rubber gaskets Polypropylene & polyethylene filter housings	Off-white	• 2-part • 1:1 Mix ratio • Room temp cure	Mixed: 21,500	0.5	40-50 mins	Polypropylene: 4-6* Polyethylene: 3-4*	-55 to +100
Permabond 910 Rapid curing methyl cyanoacrylate	Rubber gasket bonding onto filters	Colourless	• No mix • Room temp moisture cure	70-90	0.15	10-15 secs	23-29	-55 to +90

If you can't see the exact product you are looking for, or need more in depth technical information, Permabond's technical team will be more than happy to help.

Permabond Adhesives

ISO 9001 Certified
Our Science ... Your Success

Adhesives for • Design • Manufacturing • Assembly • Maintenance • Repair & Overhaul

Permabond's history of developing and manufacturing engineering adhesives spans **four decades** and three continents. Today, Permabond Engineering Adhesives Ltd (Europe & Asia) and Permabond LLC (Americas) provide technological solutions to engineers all over the world, with offices and facilities in America, Asia and Europe, backed by a high-tech **ISO 9001** certified production plant in Europe.

• **Technical** – Our chemists and technicians are available to provide application assistance, custom formulation, in-house prototype testing, joint product development programs and much more.

• **Training** – Permabond's knowledgeable sales group will provide your staff with the information they need to maximize the efficiencies, cost savings, and safety benefits Permabond products generate.

• **Sales** – From preliminary project appraisals and product needs assessments through to process reliability analysis, Permabond's knowledgeable sales group will support you from product concept through to production.

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