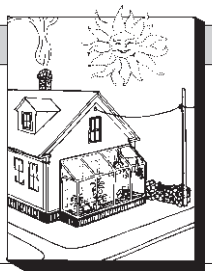

The Right Caulk For the Job

by Alex Wilson

Last month I provided some caulking tips from the pros who seal commercial buildings. In this column, I will review caulking materials. I will limit this to caulks available in the standard l0- to 12-ounce tubes that most builders use.

In choosing caulk, you should consider a number of important factors: What materials are being sealed? How long a service life do you want? Will the caulk be applied in damp conditions? Will the cured joint be exposed to heavy moisture loads? How much joint movement do you expect? How easy is the caulk to apply and tool? And how much are you willing to spend?

If you don't know the answers to some of these questions, such as the expected joint movement, you should probably err on the conservative side (that is, assume high rather than low expansion). Cost is also a consideration, but the extra money you spend on good caulk is minor when compared to the cost of a call-back.

The major types of caulk are listed below, with some general remarks on each. Keep in mind that there may be considerable variation from one brand to another, relative to the exact formulation and performance. Caulks are listed in approximate order from least to most expensive.

Oil-based. This is the least expensive type of caulk, with a short lifetime (3 to 5 years) and poor flexibility (one percent joint movement). Oil-based caulks are generally not recommended.

Butyl rubber. This is a medium cost, medium lifetime (4 to 10 years) caulk offering good adhesion to masonry and metal. It is fairly flexible (5 to 10 percent joint movement) and does not easily dry out. On the down side, butyl caulks have poor adhesion to damp surfaces, they may shrink, they can be stringy during application, they tend to attract dirt, and they require a long curing time before painting. Because they attract dirt, Mason Crawford of Crawford Caulking Co., Southhampton, Pa., recommends butyl caulks only in applications that will not be seen.

Acrylic latex. These are low-to-medium cost caulks. They are very easy to work with, clean up easily with water, can be applied to somewhat damp surfaces, and can be painted very well. They are recommended primarily for interior applications, because rain or freezing temperatures within 18 hours after application will damage the caulk. The flexibility for standard acrylic-latex caulk is low (2 percent joint movement), but many commercial formulations include silicone which can increase flexibility and lifetime considerably (up to 10 percent joint movement and 10 to 20 years). The formulations of acrylic-latex caulks vary considerably, with the cost going up with the percentage of silicone. With a sizable percentage of silicone, this is an excellent general purpose caulk.

Polysulfide. While not generally available to most builders, polysulfide caulks have been used for years in commercial construction. They have a long lifetime (20 years) and provide good adhesion to most non-porous and masonry surfaces (a primer may be required for some porous surfaces). They have good resistance to water exposure and maintain fairly good flexibility (12 to 25 percent joint movement). However, polysulfide caulks are rather difficult to apply, and applicators should wear gloves and maintain good ventilation during application. According to Mr. Crawford, the polysulfide caulks have not performed as well since 1978 when formulations were changed. He finds that they don't adhere as well as they used to.

Ethylene copolymer. Ethylene-copolymer caulk, marketed under the Geocel brand, is a medium cost, long lifetime (20 years) caulk that has good adhesion to most materials, and very good flexibility (up to 25 percent joint movement). It can readily be painted.

Polyurethane caulks provide excellent adhesion to most materials, but are difficult to clean up.

Polyurethane. Polyurethane caulks are expensive, but they have a very long lifetime (20 to 30 years).They provide excellent adhesion to most materials, maintain very good flexibility (25 percent joint movement), do not shrink, and can be painted. They can be difficult to clean up, however, and once cured, polyurethane caulks are all but impossible to remove. Polyurethane caulks have been used for years by professionals, but have only recently become available to general builders and homeowners (Sikaflex is the most common brand). Many consider polyurethane caulk to be the best all-purpose caulk on the market today.

Silicone. Silicone caulks are the most expensive, but have a long lifetime (over 20 years), good adhesion to most materials (primer required for some surfaces), the greatest flexibility of any caulk (up to 50 percent joint movement), very low shrinkage, and are useful over the widest temperature range of any caulk. Most silicone caulks are not paintable, though, and even the paintable types do not take paint very well. Also, they have poor adhesion to damp surfaces and may not adhere well to masonry.

Sources

Most of these caulks, with the exception of polysulfide, are available from any building supply center. For purchase of caulk by the gallon and for bulk guns and other specialty items such as backer rod, bond-breaker tape and smoothing tools, you'll need to buy through a commercial distributor. Several of these are listed below.

Caulking Suppliers:

Calbar Inc.
2626 N. Martha St.
Philadelphia, PA 19125
215/739-9141

C. R. Lawrence
P.O. Box 21345
Los Angeles, CA 90021
800/421-6144

F.D. McGinn, Inc.
35 Tallman Ave.
E. Providence, RI 02914
401/434-7340

Garvin Associates
128 Cambridge St.
Charlestown, MA 02129
617/242-2525

Hart Supply
420 Turnpike St.
Canton, MA 02021
617/828-8510

Jay Kay Sales Co.
P.O. Box 336
New Lewiston Rd.
Topsham, ME 04086
207/725-4394

K-Roff Inc.
Div. of Barker Steel
38 Spencer St.
Lebanon, NH 03766
603/448-1565

Kenseal Construction Products
19-25 Columbia St.
West Orange, NJ 07052
201/325-6330

William C. Norcross, Inc.
401 W. First St.
Boston, MA 02127
617/269-5950

Winderco, Inc.
P.O. Box 205
Mount Laurel, NJ 08054
609/235-8522

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