Technical Note No. 19

# SELECTION AND USE OF SEALANTS

## Introduction

The principal role of a sealant installed within a cladding system or around the perimeter of a window frame is to seal the joint against water ingress and/or air leakage. It must be able to maintain the seal while accommodating variations in joint size due to manufacturing and erection deviations, and repeated building movements induced by externally applied loads and changes in environmental conditions. This Technical Note describes the range of sealants currently available, summarises the selection process and identifies issues important to the successful functioning of sealants. Further guidance on the design of sealant joints is given in Technical Note 20 *Design of sealant joints*.

## Performance

The properties required of sealants are as follows:

- Adhesion to the substrate material(s) without damage (e.g. staining);
- Ability to deform to accommodate movement of the joint;
- Weather resistance and durability.

For the sealant to perform these functions:

- An appropriate generic type and formulation of sealant (and if necessary primer) must be selected. Materials should preferably be supplied by a reputable manufacturer;
- The sealant joint must be properly designed, constructed and prepared;
- The sealant must be correctly mixed (two-part systems), installed and tooled.

A sealant should normally be applied as part of a system. Primers help to provide adhesion to the sides of the joint however adhesion to material at the back of the joint may restrict movement and may be prevented by using bond breakers. The use of a backing strip helps to ensure the correct depth of sealant and a joint filler may be used to help form the joint prior to sealant installation. Some types of backing strip also act as a bond breaker. Figure 1 shows the components of a typical joint.

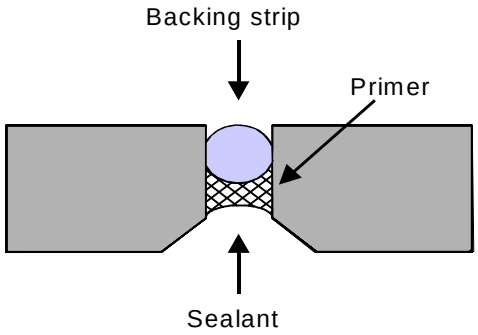


**Figure 1** Components of a typical sealant joint.

## Accommodation of joint movement

Joints may be static (i.e. fixed) or dynamic (i.e. moving). Most joints in windows, cladding and curtain walling systems are dynamic and will have to accommodate:

- Single uni-directional movements (e.g. concrete drying shrinkage and creep, ground settlement);