# **Adhesives**

## Selection guide

To determine the adhesive or sealant most compatible with a Raychem part, you must know the part's product type.

Use the Adhesive/Sealant Selection Table (page 5-1) to determine a Raychem part's product type and the adhesive/sealant compatible with that type.

Use the Adhesive/Sealant Product Characteristics Table (pages 5-2 and 5-3) to be sure the adhesive or sealant has the product characteristics your application requires.

# **Adhesives**

## Adhesive/sealant selection table

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To use the Selection Table, follow these four steps:

- 1. Under "Substrate Category," find the product material and product name/part number for the Raychem part.
- 2. Across the top of the table, find the part's product type and dash number.
- 3. At the intersection of the substrate category (product material/name/part number) and the product type (by designated dash number) you will find the part number for the most compatible adhesive for the Raychem part.
- 4. Turn to the Adhesive/Sealant Product Characteristics Table (page 5-2) to verify the characteristics of the adhesive/sealant vou selected.

|            | Product     |          |              |          |      |        |        |        |        |        |        |        |        |        |
|------------|-------------|----------|--------------|----------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Substrate  | name        |          |              |          |      |        |        |        |        |        |        |        |        |        |
| Category   |             | Molded n | art material | dash nur | mher |        |        |        |        |        |        |        |        |        |
| outogory   | O/GITTIPIOO | -3       | -4           | -6       | -8   | -12    | -25    | -50    | -51    | -55    | -71    | -100   | -125   | -130   |
| Polyolefin | RNF-100     | S-1006   | S-1006       |          |      |        |        |        |        |        | S-1006 |        |        | S-1006 |
|            | Versafit    | S-1009   | S-1009       |          |      |        |        |        |        |        | S-1009 |        |        | S-1009 |
|            | CRN         | S-1017   | S-1017       |          |      |        |        |        |        |        | S-1017 |        |        | S-1017 |
|            | BSTS        | S-1030   | S-1030       |          |      |        |        |        |        |        | S-1030 |        |        |        |
|            | SST         | S-1048   | S-1048       |          |      |        |        |        |        |        | S-1048 |        |        |        |
|            | HR          | S-1298   | S-1297       |          |      |        |        |        |        |        | S-1297 |        |        |        |
| Fluoro-    | Kynar       | S-1009   | S-1009       |          | S-10 | 09     | S-1125 |        |        |        | S-1009 |        | S-1009 |        |
| polymer    |             | S-1048   | S-1048       |          |      |        |        |        |        |        | S-1048 |        | S-1048 |        |
|            |             | S-1125   | S-1125       |          |      |        |        |        |        |        | S-1125 |        | S-1125 |        |
|            | RT555       |          |              |          |      | S-1255 |        |        |        | S-1255 |        |        | S-1255 |        |
|            | HCTE        |          |              |          |      | S-1255 | S-1125 |        |        | S-1255 |        |        |        |        |
|            | CONVOLE     | Χ        |              |          |      | S-1125 |        |        |        | S-1125 |        |        |        |        |
| Vinyl      | PVC         | S-1006   | S-1006       |          |      |        |        |        |        |        | S-1006 |        |        |        |
|            |             | S-1009   | S-1009       |          |      |        |        |        |        |        | S-1009 |        |        |        |
|            |             | S-1017   | S-1017       |          |      |        |        |        |        |        | S-1017 |        |        |        |
| Elastomer  | DR-25       |          |              |          |      |        | S-1125 | S-1125 | S-1125 |        |        |        |        |        |
|            | NT          | S-1006   | S-1006       |          |      |        |        |        | S-1124 |        | S-1006 |        |        |        |
|            |             | S-1009   | S-1009       |          |      |        |        |        |        |        | S-1009 |        |        |        |
|            |             | S-1017   | S-1017       |          |      |        |        |        |        |        | S-1017 |        |        |        |
|            | NT-FR       |          |              |          |      |        | S-1125 |        | S-1124 |        |        |        |        |        |
|            | SFR         |          |              | •        |      |        |        |        |        |        |        |        |        |        |
|            | SRFR        |          |              | *        |      |        |        |        |        |        |        |        |        |        |
|            | VITON       |          |              |          |      | S-1255 |        |        |        | S-1255 |        |        | S-1255 |        |
|            | VPB         |          |              |          |      |        |        | S-1125 |        |        |        |        |        |        |
|            |             |          |              |          |      |        |        | S-1255 |        |        |        |        |        |        |
| Zerohal    | XFFR        |          |              |          |      |        |        |        |        |        |        | S-1030 |        |        |
|            | ZHTM        |          |              |          |      |        |        |        |        |        |        | S-1030 | )      |        |

<sup>\*</sup>GE RTV 108 used with SFR SRFR and -6 (silicone) molded parts.

# **Adhesives**

Adhesive/sealant product characteristics table

|                |             |                                | Operating        |                 |                           |
|----------------|-------------|--------------------------------|------------------|-----------------|---------------------------|
| Product        | Precoat     |                                | temperature      | Product         | Available form/           |
| type           | designation | Туре                           | range            | designation     | packaging                 |
| Thermosets     |             |                                |                  |                 |                           |
| S-1006         |             | Epoxy/                         | -55°C to 135°C   | S-1006 Kit 1    | Two x 15-gram packs       |
|                |             | polyamide                      |                  | S-1006 Kit 2    | Four x 7.5-gram packs     |
|                |             | two-part paste                 |                  |                 |                           |
|                |             |                                |                  | S-1006 Kit A    | Ten 3-gram packs          |
| S-1009         |             | Epoxy/                         | -55°C to 135°C   | S-1009 Kit A    | Ten 3-gram packs          |
|                |             | polymercaptan                  |                  |                 |                           |
|                |             | two-part paste                 |                  |                 |                           |
| S-1255-04      |             | One-part epoxy                 | -55°C to 200°C   | S-1255-04       | Tape (3/4" x .020 x 100') |
|                |             | tape adhesive                  |                  |                 |                           |
| S-1125         |             | Epoxy/polyamide                | -55°C to 150°C   | S-1125 Kit 1    | Five 10-gram packs        |
|                |             | two-part paste                 |                  | S-1125 Kit 2    | Two 10-gram packs         |
|                |             |                                |                  | S-1125 Kit 3    | One 100-gram pack         |
|                |             |                                |                  | S-1125 Kit 4    | Five 10-gram packs        |
|                |             |                                |                  | S-1125 Kit 5    | One 10-gram pack          |
|                |             |                                |                  | S-1125 Kit 8    | Two 50-ml syringes        |
|                | /225        | Precoated                      | -75°C to 150°C   | Precoat only on |                           |
|                |             | latent-curing                  |                  | -25 molded      |                           |
|                |             | epoxy/polyamide                |                  | parts           |                           |
| Thermoplastics |             |                                |                  |                 |                           |
| S-1017         | /42         | Hot-melt/<br>polyamide         | -20°C to 60°C*** | S-1017          | Tape (1" x .010" x 50')   |
| S-1030         | /180        | Hot-melt/                      | -80°C to 80°C    | S-1030          | Tape (3/4" x .010" x 33') |
|                |             | polyolefin                     |                  |                 |                           |
| S-1048         | /86         | Hot-melt,                      | -55°C to 120°C   | S-1048          | Tape (1" x .026" x 100')  |
|                |             | high performance               |                  |                 |                           |
| S-1124         | /164        | Hot-melt/                      | -55°C to 105°C   | S-1124          | Tape (3/4" x .018" x 100  |
|                |             | elastomeric                    |                  |                 |                           |
|                |             | polymer                        |                  |                 |                           |
| S-1297         | /97         | Hot-melt/                      | -20°C to 90°C    | S-1297          | Tape (1" x .010" x 10')   |
|                |             | polyamide                      |                  |                 |                           |
|                |             | adhesive                       |                  |                 |                           |
|                |             |                                |                  |                 |                           |
| Sealants       |             |                                |                  |                 |                           |
| S-1278         |             | Hot-melt grey<br>butyl sealant | -40°C to 90°C    | S-1278-01       | Tape (1" x .062" x 25')   |
|                |             | ·                              |                  | S-1278-02       | Tape (3 3/4" x .125" x 10 |
| S-1305         |             | Hot-melt grey                  | -40°C to 90°C    | S-1305-01       | Tape (1" x .062" x 25')   |

<sup>&</sup>quot;Shelf life from date of manufacture. "For specific adhesion properties, see product specification sheets.
""Passes cold bend at -40°C per RT-4204. """Only S-1006 Kit A conforms to MIL-A-46864.

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|          |                          | Shelf life* at |                  |  |
|----------|--------------------------|----------------|------------------|--|
| Pot life | Curing                   | or below       |                  |  |
| at 23°C  | conditions               | 25°C           | Specifications** | Comments                               |
| 1 h      | 96 h at 20°C min. or     | 2 years        | RT-1006          | General purpose harnessing adhesive.   |
|          | 1 hr at 120°C            | 2 /00/0        | RK-6612          | Not used on Viton, silicone or Kynar,  |
|          | 1141.120.0               |                | 111.00.12        | 20-minute pot life                     |
|          |                          |                | MIL-A-46864****  | 20 minute per ine                      |
| 20 min   | 24 h at 20°Cmin. or      | 2 years        | RT-1009          | General purpose harnessing adhesive.   |
|          | 1 hr at 95°C             | _ /            |                  | Not used on Viton or silicone;         |
|          |                          |                |                  | 20-minute pot life                     |
|          | 45 min at 120°C          | 1 year         | RT-1014          | One-part epoxy tape used with Viton    |
|          | 2 h at 155°C min. or     |                |                  | harness systems. Heat cure required    |
|          | 15 min at 240°C          |                |                  | (2 hours at 155°C)                     |
| 90 min   | 24 h at 20°C min. or     | 18 months      | RT-1011          | Good fluid-resistant epoxy used with   |
|          | 1 hr at 85°C             |                | RK-6619          | System 25                              |
|          |                          |                | VG-95343         |  |
|          |                          |                |                  |  |
|          |                          | 1 year         |                  |  |
|          | Cure during installation | 1 year         | VG-95343         | Precoated epoxy system for System 25   |
|          | of molded parts          | ,              | RK-6630          | , , , ,                                |
|          | ·                        |                |                  |  |
|          | 120°C                    | Unlimited      | RT-1050/1        | General purpose harnessing adhesive    |
|          |                          |                | ,                | Standard precoated adhesive for -3     |
|          |                          |                |                  | and -4 molded parts                    |
|          | 120°C                    | Unlimited      | RT-1050/6        | Good low-temperature flexibility.      |
|          |                          |                | RK-6017          | Available as a preinstalled tape for   |
|          |                          |                |                  | molded parts                           |
|          | 160°C                    | Unlimited      | RT-1050/3        | Requires high temperature to achieve   |
|          |                          |                | RK-6626          | bonding. Highest service temperature   |
|          |                          |                |                  | for hot melt                           |
|          | 135°C                    | Unlimited      | RT-1050/13       | Requires reflowing in an oven at 150°C |
|          |                          |                |                  | for 90 minutes. Designed to bond to    |
|          |                          |                |                  | -51 molded parts.                      |
|          | 120°C                    | Unlimited      | RW-2019          | General purpose harnessing adhesive    |
|          |                          |                |                  | Standard precoated adhesive in         |
|          |                          |                |                  | Sigmaform molded parts, CES and        |
|          |                          |                |                  | CSGA cable entry seals, and SST-FR     |
|          |                          |                |                  | heat-shrinkable tubing                 |
|          | 110°C                    | Unlimited      | RW-2020          | General purpose sealant and cable      |
|          | 110 C                    | Jillitilleu    | TIVV-ZUZU        | breakout area filler                   |
|          |                          |                |                  | broakout area iiiiei                   |
|          | 11000                    | TEP 5. 1       | DIMOCOA          |  |
|          | 110°C                    | Unlimited      | RW-2021          | Halogen-free, flame-retardant sealant  |
|          |                          |                |                  | and cable breakout area filler         |
|          |                          |                |                  |  |