

# Product data

# Synolite 2710-U-2

## Chemical/physical nature

Synolite 2710-U-2 is an unsaturated polyester based on tetrahydrophthalic anhydride, dissolved in styrene. The resin is pre-accelerated with polymeric amines, has a medium viscosity, and a high reactivity.

## Major applications

Synolite 2710-U-2 yields highly flexible polymers, and is applied for highly filled knifing fillers for use on metal, wood and mineral substrates. In putties for car refinishes, Synolite 2710-U-2 is applied as the flexible component in blends for soft sanding pastes. This resin is cold-curing, even around 0°C.

## Principal properties

Fillers based on Synolite 2710-U-2 cure fully when applied in both thick and thin layers. They can be made harder by the addition of, for example, Synolite 9248-U-3 or Synolite 6494-U-2. Storage stability of putties made from Synolite 2710-U-2 is excellent. Fillers based on Synolite 2710-U-2 show very good adhesion to various substrates, including mild steel, galvanized steel, aluminium, wood, and polyester.

## Product specifications

| Specification               | Range           | Unit     | TM   |
|-----------------------------|-----------------|----------|------|
| Appearance                  | clear           | -        | 2265 |
| Colour, Lico 200            | max. 10         | G        | 2017 |
| Refractive index (23 °C)    | 1.5220 - 1.5270 | -        | 2150 |
| Acid value, as such         | 16 - 20         | mg KOH/g | 2401 |
| Viscosity, 23°C             | 450 - 540       | mPa.s    | 2013 |
| Solids content, IR          | 67.0 - 71.0     | %        | 2033 |
| Gel time from 25 to 35°C    | 5.5 - 7.5       | Min      | 2625 |
| Cure time from 25°C to peak | 8.5 - 11.0      | Min      | 2625 |
| Peak temperature            | 95 - 115        | °C       | 2625 |

## Remarks

TM 2013: Z2/100/23°C

The curing characteristics are obtained using 2 wt% BPO-50% Lucidol CH50L (AKZO Nobel).

## Properties of the liquid resin (typical values)

| Property                        | Value      | Unit              | TM   |
|---------------------------------|------------|-------------------|------|
| Flash point                     | appr. 33   | °C                | 2800 |
| Density, 23°C                   | appr. 1150 | kg/m <sup>3</sup> | 2160 |
| Stability, no init., dark, 25°C | min. 6     | Month             | -    |

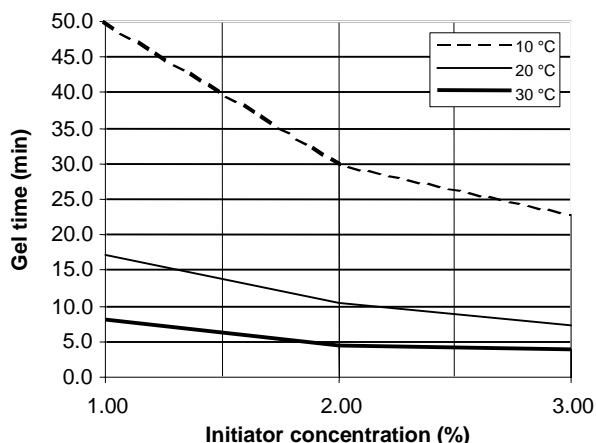
## Properties of cast unfilled resin (typical values)

| Property            | Value | Unit    | TM        |
|---------------------|-------|---------|-----------|
| Tensile strength    | 9     | MPa     | ISO 527-2 |
| Elongation at break | 56    | %       | ISO 527-2 |
| Hardness            | 54    | Shore D | 2602      |

## Remarks

Casting (4 mm) cured with 2 wt% BPO-50% Lucidol CH50L (AKZO Nobel). Postcure 6h at 60°C.

## Graph showing pot life with a standard catalytic system



## Remarks

Gel time of 100 g resin, using BPO-50% Lucidol CH50L (AKZO Nobel).

## Formulation

Suitable extenders are talc, dolomite/calcite, crystalline chalk and barytes with a low iron content. Talc is applied as the main component because it improves sanding properties, and the adhesion to the substrate. In addition, the more spherical extenders such as dolomite, chalk and barites ensure dense packing.

### Typical starting formulation

| Components              | Weight |
|-------------------------|--------|
| Synolite 2710-U-2       | 90     |
| Synolite 6494-U-2       | 210    |
| Thixcin E (a)           | 10     |
| Finntalc M50 (b)        | 475    |
| Titanium dioxide (c)    | 50     |
| Barium sulphate EWO (d) | 140    |
| Styrene monomer         | 25     |
|                         | 1000   |

### Remarks

a) Elementis Specialties, b) Mondo Minerals, c) Kronos Europe d) Sachtleben.  
 Putty geltime at 20°C with 2 wt% BPO-50% paste (AKZO Nobel Lucidol BT-50): 3-4 minutes.

### Processing

This putty resin cures by the addition of benzoyl peroxide (BPO), without the application of external heat. For car repair putties, the following blend of resins is recommended for soft sanding:

Synolite 2710-U-2      30 parts by weight  
 Synolite 6494-U-2      70 pbw

### Guidelines before use

Before use, the resin should be conditioned at a well defined, application dependant temperature (usually 15 °C minimum for a MEKP / Co cure). Stir the product before blending.

### Storage guidelines

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5°C and 30°C. Shelf life is reduced at higher temperatures. The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only.

### Material Safety

A material safety data sheet for the product is available on request.

### Test methods

Test methods (TM) referred to in the table(s) are available on request.



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