


Technical Data Sheet

Tangit Dytex

I. Material

Product name:

Tangit Dytex (PC 10)

Intended use:

Tangit Dytex is suitable for bonding PVC-U and PVC-C pressure pipes used for transporting inorganic acids. The operable temperature range of Tangit Dytex is below 60°C. For applications outside this range use other Tangit adhesives. Tangit Dytex is not suitable for pipes in drinking water supply. For uncalibrated pipe joints acc. to DIN 8062/8063 it is necessary to use the bonding technique described below.

Packaging:

1.35 kg tins

Material type:

Solvent-containing adhesive based on methylene chloride.

Shipping units:

6 tins of 1.35 kg each

II. Special features

Bonded joints produced with Tangit adhesive:

In general, bonded joints made of ABS, PVC-U or PVC-C that are produced using the respective Tangit adhesive are as resistant as the material the pipeline is made of.

Exception: the acids listed on the right.

When exposed to these acids, it is recommended to use Tangit Dytex Adhesive for producing bonded joints made of PVC-U resp. PVC-C.

Medium:	Up to a concentration of (%):
Sulphuric acid	> 70 % H ₂ SO ₄ concentration
Chromic-sulphuric acid	> 70 % H ₂ SO ₄ concentration plus 5 % K ₂ Cr ₂ O ₇ , Na ₂ Cr ₂ O ₇
Chromic acid	> 10 % CrO ₃ concentration
Hydrochloric acid	> 25 % HCl concentration
Nitric acid	> 20 % HNO ₃ concentration
Sodium hypochlorite (calcium hypochlorite)	> 6 % NaOCl active chlorine concentration
Hydrogen peroxide	> 5 % H ₂ O ₂ concentration
Hydrofluoric acid	any HF concentration

For all media not listed above or used in lower concentrations, the adhesives Tangit PVC-U or PVC-C can be used.

As these acids affect the pipe material, it is recommended to use pipes of pressure rating DN 16.

Concerning the expected service life and pressure resistance, please contact your local Henkel representative or your pipe resp. fitting manufacturer.

When using Tangit Dytex in the construction of PVC-C pipelines exposed to the acids listed above, it is necessary to observe the pressure and temperature requirements for PVC-U.

Technical data

Raw material basis:

post-chlorinated PVC dissolved in methylene chloride.

Density (spec. gravity):

approx. 1.35 g/cm³

Dilution:

Tangit Dytex comes ready-to-use. It must therefore not be diluted in any way.

Viscosity:

Epprecht-Drage viscosimeter MK2, 20°C, 200-300 mPas.

Brookfield LVT

20°C, spindle 2, 60 rpm, 170-320 mPas.

Handling strength:

is reached after 48 hours.

Final strength:

corresponds to the strength of the bonded material.

Consumption:

For the production of 100 bonded joints the following **approximate** amounts of adhesive and cleaner are required:

Pipe dimensions - DN - OD (mm)	50 63	65 75	80 90	100 110	125 140
Tangit Dytex Solvent Cleaner (kg)	1.8	2.3	3.1	4.7	7.9
Tangit Dytex Adhesive (kg)	1.1	1.5	2.1	2.9	4.5

Please note: The adhesive amounts indicated above are maximum values based on practical experience. The actual consumption in a given application depends on working method, pipe gap and temperature.

III. Instructions for use

There is sound practical experience with PVC-U pipelines for transporting acids and bases that were bonded using Tangit adhesives.

The bonds lose some of their stability when exposed for longer periods to the media listed under "Special features". This applies in particular to larger differences in pipe diameters (large gaps).

The strength of the bond is also greatly influenced by the time allowed for the fresh bond to dry and by parameters such as operating pressure, operating temperature and concentration of the media. Long-term observations have shown that Tangit Dytex is superior to other Tangit adhesives for bonding PVC-U pipes used for the above-listed media at higher concentrations than those given. Since Tangit Dytex does not have a gap-filling property, a special installation technique must be followed when using today's uncalibrated pipe-fitting joints.

Pipe Outer Diameter (mm)	Measure b in mm, application with fittings
up to 16	approx. 2
20 – 50	approx. 3
63 – 140	approx. 5

Pipe Outer Diameter (mm)	Plug-in Depth in mm t
16	14
20	16
25	19
32	22
40	26
50	31
63	38
75	44
90	51
110	61
140	76

Preparation of the surfaces to be bonded:

The socket ends should have a design that is suitable for bonding (conical tapering.)
The pipe ends must be cut off at right angles, chamfered and deburred (see fig.)

No tight and durable bond can be produced unless the ends have been properly chamfered.

Pretreatment:

Remove heavy dirt adherent to the surfaces to be bonded (pipe ends outside, fittings inside). Remove any ice by careful heating (luke-warm). Then measure the fitting insertion depth (= bond length) and mark it on the pipe end so that the application of the required amount of adhesive and the complete insertion of the pipe can be assured.

Since Tangit Dytex does not have a gap-filling property, the proper fit of pipe and socket must be checked while still dry. If the pipe end can be inserted easily into the socket of the fitting, it is necessary to apply several layers of adhesive.

Bonding:

The final cleaning is done with Tangit Dytex Solvent Cleaner. Soak white, lint-free tissue paper (from the roll) with the solvent cleaner and thoroughly clean the dry surfaces to be bonded until they are free of dirt and grease. Use a new piece of tissue paper for each cleaning operation. After that, brush Tangit Dytex Solvent Cleaner onto the surfaces to be bonded (pipe ends outside, fittings inside) until the surfaces have partially dissolved (slimy consistency, use fingernail to check).

Apply Tangit Dytex Adhesive with a round brush in axial direction onto the still partly dissolved surfaces and allow to dry for at least 30 seconds.

Brush sizes for pipe bonding:

Up to d 63 mm:
round brush Ø 20 mm

Above d 75 mm:
round brush Ø > 45 mm

The application of the adhesive depends on the gap size (pipe diameter):

d mm < 16 s=±0 mm	d mm 16 - 25 s=±0.0 mm	d mm 32 - 40 s=+0.1 mm	d mm 50 - 63 s=+0.2 mm	d mm 75 - 90 s=+0.3 mm	d mm 110 - 140 1) s=+0.4 mm
2 x both sides	3 x both sides	4 x both sides	6 x both sides	8 x both sides	10 x both sides

¹⁾ Gaps (difference in diameters) must not be larger than 0.4 mm! Pipes/fittings with an OD larger than 110 mm should be measured to determine the permissible size of the gap.

After the last application of adhesive, apply another coat of Tangit Dytex Solvent Cleaner on both surfaces until they have a slimy consistency again. Immediately afterwards insert the pipe end fully into the socket without twisting or jamming. Hold fast for several seconds.

Since the adhesive cures rapidly, the parts must be joined within one minute after the last application of the solvent cleaner. At temperatures above 25°C, the open time decreases to less than 1 minute. When inserting the pipe, firm resistance must be felt. The adhesive bulge forming during insertion must be uniform and consistent. Immediately wipe off any excess adhesive.

Because of its open time of 1 minute, Tangit Dytex Adhesive cannot be used for pipes with diameters larger than 140 mm.

Waiting times / pressure tests:

The joints must not be subjected to mechanical stress for the first 5 minutes after bonding.

Waiting times between the individual steps at tolerances of	
≤ 0.2 mm 10 to 15 min.	> 0.2 mm up to 0.4 mm 30 min. (at temperatures ≤ 10°C = 45 min.)

After drying for approx. 48 hours at 23°C, the bonds have reached their operable strength. Curing takes longer at lower ambient temperatures (see IV: Special Instructions). The pipelines must not be filled or pressure-tested earlier than 48 hours after producing the last bond.

IV. Special instructions

At storage temperatures $\leq 5^{\circ}\text{C}$, the materials (fittings, pipes, adhesives) must be allowed to reach a temperature of $20\text{-}25^{\circ}\text{C}$ before use.

Special measures must be taken when working at temperatures below 5°C . First, heat the parts to be bonded to $20\text{-}25^{\circ}\text{C}$, using a hot-air blower. Then bond using the technique described above. After bonding, the parts must be kept at approx. 25°C for 15-30 minutes in order to speed up the curing process. From 75 mm outer diameter up, the adhesive should be applied to pipe and socket simultaneously by two persons.

When using Tangit Dytex with PVC-C pipes, the operating temperature is limited to max. 60°C !

At high air humidity and/or low temperatures, condensed water or hoarfrost may form. If work is done at temperatures below 10°C , the surfaces to be bonded should therefore be rubbed dry with clean tissue paper (without leaving paper traces) and hoarfrost be removed by the application of heat.

To ensure optimum fit (i.e. narrow gaps with sufficient workability), it is recommended to use a pipe / fitting system with matching dimensions, e.g. pipes for chemical applications made by Fischer-DEKA GmbH.

The pipelines must be thoroughly flushed / blown through in order to remove residual solvent vapours. The pipeline must not be closed during the drying time of the adhesive.

Tangit Dytex Adhesive and Tangit Dytex Solvent Cleaner affect PVC-U. Materials should therefore be kept away from any spilled adhesive, solvent cleaner or the paper tissues used for cleaning. Tightly close the containers immediately after use in order to avoid solvent evaporation and thickening.

Generally, we do not recommend bonding work at temperatures below 10°C since curing is considerably delayed at low temperatures. The installation of acid-proof pipelines requires expert knowledge of the special techniques. Please make sure to follow the installation instructions of the pipe/fitting manufacturers.

The bonded pipelines must be inspected in regular intervals. We recommend that a couple of transparent fittings are installed in the pipeline to facilitate inspection. Discoloration of the bonded joint will then indicate any damage to the system. Transparent fittings are produced e.g. by Georg Fischer Rohr-leitungssysteme AG, Albershausen/D resp. Schaffhausen/CH.

The quality of the joints directly depends on proper workmanship and on the matching dimensions of the pipes and fittings used.

Safety information:

Always keep the containers tightly closed and store them in a cool, well-ventilated place.

Avoid contact with skin, eyes and clothes. Do not empty product remains into sewage systems.

For further information refer to the leaflets and accident prevention regulations of the employers' liability insurance associations and the safety data sheet.

Shelf life:

If stored at $20\text{-}25^{\circ}\text{C}$ in the unopened original containers, Tangit Dytex Adhesive and Tangit Dytex Solvent Cleaner have a shelf life of at least 24 months from the date of filling.

Date of manufacture and batch number are indicated at the bottom of the container.

Internet:

www.tangit.com

This Technical Data Sheet is based on our present knowledge and experience.



Please note:

The above information can only be of a general nature. As materials and conditions may vary with each intended application and thus are beyond our influence, we recommend that the user always carries out sufficient tests to ensure our products are suitable. No liability can be accepted for particular application results based on the information and instructions given in this leaflet.

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