

## POLYCOL® MULTI-TEX

### 1. DESCRIPTION

POLYCOL® MULTI-TEX is a high solids, fast exposing, pre-sensitized 'pure photopolymer' SBQ emulsion specially formulated for use with most all of the newest textile inks including plastisol, water-based, and discharge systems. It is developed for use on the newest Computer-to-Screen imaging & LED exposing systems as well as conventional exposure systems.

POLYCOL® MULTI-TEX builds quickly and has excellent edge definition and resolution. POLYCOL® MULTI-TEX does not 'lock in' the emulsion after treated with cleaning solvents, making reclaiming easier.

**TIP:** To optimize the emulsion's resistance to water-base and discharge ink systems, be sure the emulsion is extremely dry at the time of exposure and select the longest possible exposure time.

**NOTE:** For best results post expose dried, imaged screen from the squeegee side for triple the initial exposure time.

In extreme cases or for use in shops with uncontrolled humidity, the use of stencil hardener and/or diazo additive may be required for longer print runs. See SENSITIZING and POST HARDENING below for more information.

### 2. SENSITIZING

Pre-sensitized -- ready to use.

If needed, Diazo H or D – supplied separately upon request – may be used when printing with water-based and discharge ink systems.

### 3. DEGREASING

To achieve consistent, good quality stencils, degrease mesh with a good quality commercial degreaser such as KIWO's DEGREASER 1:20 CONCENTRATE or ULTRA PREP. For degreasers used in automatic equipment, use our machine grade degreaser KIWO CLEAN DEGREASER 1:40 CONCENTRATE. See separate Technical Information sheets for further details regarding KIWO's degreasers.

For best results, thoroughly brush both sides of screen with degreasing agent. Using a pressure washer to remove degreaser will help remove contaminants trapped in the mesh but may also re-introduce impurities to the mesh caused by 'blowback' from the washout booth. To reduce this risk, perform a final flood rinse using low water pressure.

Mesh should be free of all contaminants such as ink and emulsion residues, oil, dust, and ghost/haze images prior to emulsion coating.

### 4. COATING PROCEDURE

Coating can be done manually or by machine. The use of a KIWOMAT® SIMPLEX coating machine is especially recommended because it achieves a more reproducible coating result. When coating manually, begin on the substrate side of the screen with wet-on-wet coats until emulsion surfaces on the squeegee side (generally 2 coats when using round edged coating trough). Then finish with wet-on-wet

coats on the squeegee side to build up the emulsion coating to the desired thickness depending on the printing requirements.

POLYCOL® MULTI-TEX has excellent coating properties on mesh counts of 40-305 threads per inch (16-120 threads per cm). For quality stencil thickness, the following coating techniques are recommended using a round (2 - 2.5 mm) edged coating trough:

40-86 tpi (16-34 tpcm): 2-1 (substrate-squeegee) wet-on-wet  
110-156 tpi (43-61 tpcm): 2-1 (substrate-squeegee) wet-on-wet  
195-305 tpi (77-120 tpcm): 2-1 (substrate-squeegee) wet-on-wet

### 5. DRYING

Dry emulsion coated screens in complete darkness, or under safelight conditions, in a horizontal position with the substrate side facing down. Temperature, relative humidity and airflow affect the drying time. Screens must be *dried thoroughly* before exposing to achieve highest chemical (ink and ink cleaners) and mechanical (abrasion) resistance. Environmental conditions play a vital role. Temperatures of 86°-104°F (30°-40°C) with a relative humidity of 30% - 50% maximum and moderate airflow are optimum conditions. Drying at room temperature and in uncontrolled conditions may lead to inconsistent results and varying screen resistance.

**TIP:** Keep screens and all screen handling areas dry until exposure is complete. This includes storage, exposure preparation, *and* exposure areas, as photo emulsions reabsorb moisture if reintroduced to high humidity environments. Emulsions do not become humidity resistant until exposure, washout and drying are complete.

### 6. EXPOSING

Expose with ultra-violet light at a wavelength of 350 – 420 nm. *Metal halide lamps provide the best results.* Due to the many variables that determine optimum exposure time, accurate exposure times cannot be given. The following examples are offered as a guide only.

**Lamp: 5000 Watt metal halide at 40" (1m) distance:**

Mesh Count tpi (tpcm)	Mesh Color	Coating Technique	Exposure Time
110-80 ( 43-140)	White	2-1	~ 15 sec.
156-64 (61-64)	Yellow	2-1	~ 30 sec.

Correct exposure times for your equipment and mesh selection must be determined through exposure tests using an exposure calculator such as the KIWO® ExpoCheck.

Under-exposed screens feel slimy on the squeegee side during developing. At correct exposure time, the screen is not slimy. Overexposure leads to loss of small details. Correctly exposed screens will withstand high water pressure during washout.

Please contact KIWO if you have further questions regarding exposure time.



**7. DEVELOPING / WASHOUT**

Wet both sides of the screen thoroughly with water, then after a short dwell time; wash out screen from the substrate side of the screen using a power washer (~1,500 psi) on fan spray setting at 12-18" distance until image is fully developed. Briefly rinse squeegee side to remove any remaining emulsion residue. Vacuum or blot excess water from screen.

If emulsion is slimy on the squeegee side of the screen or the stencil is damaged due to developing with a pressure washer, the emulsion was under-exposed and/or was not properly dried.

**8. POST-HARDENING (UV POST-EXPOSURE)**

For maximum resistance to aggressive ink systems, post expose dried, imaged screen from the squeegee side for triple the initial exposure time.

Exposing the screen fully with the primary exposure offers better resistance than under exposing initially, then post-exposing to improve resistance. Post exposure is most often used for long printing runs when water based and/or abrasive inks are used.

**9. POST-HARDENING (CHEMICALLY)**

The emulsion can be chemically post-hardened using one of KIWO's stencil hardeners. Stencil hardeners can be classified as reclaimable or un-reclaimable. If reclaiming ability is desired, use KIWO HARDENER HP or HARDENER WR.

If a permanent un-reclaimable stencil is desired, for example when cataloging screens for future use, or when aggressive inks are used for very large print runs, use KIWO HARDENER K. See separate Technical Information sheets for further details regarding KIWO's stencil hardeners.

**10. BLOCKOUT / TOUCH-UP**

When printing with plastisol ink, retouching and blocking out can be done with KIWO's BLOCKOUT, RED BLOCKOUT or KIWOFILLER SR 401 NV.

For a water resistance stencil, block out and retouch with KIWOFILLER SWR 22, BLOCKOUT WR or use POLYCOL® MULTI-TEX (dry thoroughly and re-expose completely prior to using stencil hardeners). See separate Technical Information sheets for further details regarding KIWO's blockouts.

**11. RECLAIMING**

POLYCOL® MULTI-TEX can be reclaimed with KIWO's STENCIL REMOVER 1:20 CONCENTRATE. Before reclaiming, ensure the screen is completely cleaned of ink or ink cleaning chemical residues.

For best results, work both sides of the screen i.e. apply stencil remover, brush, and pressure wash both sides of the screen. After applying stencil remover, a short dwell time may be used prior to pressure washing to allow more working time for the stencil remover especially when using coarser meshes and/or thicker stencils.

CAUTION: Never allow stencil removers to dry prior to removal, as the emulsion will become locked into the mesh and virtually impossible to remove. See separate Technical Information sheets for further details regarding KIWO's stencil removers.

**12. HAZE REMOVING**

Ink stains alone can be effectively removed with EXCEL INK WASH or KIWOCLEAN® CONCENTRATED INK WASH without the use of harsher products.

To remove emulsion haze or stubborn ghost images left from the ink, use KIWO's MEGA CLEAN ACTIVE, FAST LIQUID HAZE REMOVER, or HAZE REMOVER.

MEGA CLEAN ACTIVE and FAST LIQUID HAZE REMOVER work in approximately five minutes and effectively remove both emulsion haze and ink ghost simultaneously.

HAZE REMOVER should be applied to a dry screen, then allowed to completely dry on the screen. For more effective ink ghost removal, HAZE REMOVER can be used in conjunction with or EXCEL INK WASH to re-activate dried HAZE REMOVER.

Haze removers, like ink washes and stencil removers should be worked into the screen mesh from both sides of the screen before removing for maximum effectiveness.

See separate Technical Information sheets for further details regarding KIWO's haze removers.

**13. PHYSICAL PROPERTIES**

Viscosity:	Approx. 10,000 mPas
Solids Content:	approx.: 43%
Color:	Red or Blue
Storage:	1 year at 68°F/20°C
Potlife:	1 year at 68°F/20°C
Pre-coated screens:	8 weeks in complete darkness at 68°F/20°C or 1-3 weeks when using diazo D
Freezing:	Protect against freezing
VOC:	None
TLV:	N/A
HMIS rating:	Health – 1 Flammability – 0 Reactivity – 0

**14. PACKAGING**

1 US Quart, 1 US Gallon, 5 US Gallons, 55 US Gallon Drum.

**15. ADDITIONAL INFORMATION**

For additional product information, please visit our web site at [www.kiwo.com](http://www.kiwo.com). All products mentioned in this technical data sheet are available through KIWO Inc. and its distributor network. For further information contact your authorized KIWO distributor or KIWO direct.

Thank you for choosing **KIWO**.