



All products are produced with a quality control system as certificated by "ISO 9001" for the world

PLATE MANUFACTURER

TOYOBO CO., LTD.

PHOTO-FUNCTIONAL MATERIALS DEPARTMENT

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DISTRIBUTOR



WATER-WASH FLEXO PLATE
Cosmolight®

Cosmolight®

Environmentally friendly, user friendly...

T O Y O B O

WATER-WASH FLEXO PLATE

Cosmolight®

THE ENVIRONMENTALLY FRIENDLY WAY TO PROCESS FLEXO PLATES

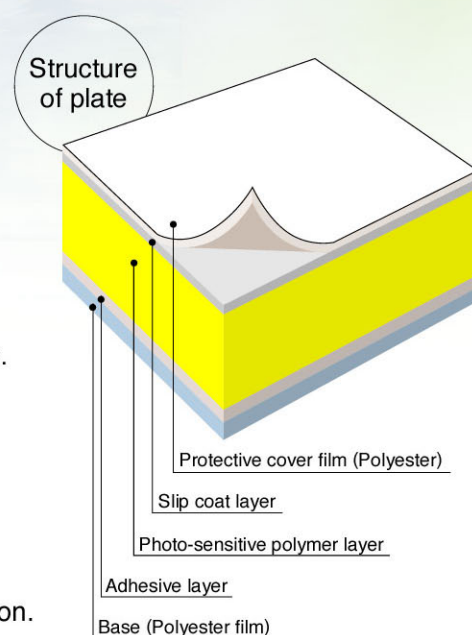
We, the pioneer of Printight®, a water-wash letterpress plate, have commercialized the world's first water-wash flexo plate, Cosmolight®. Our superior photopolymer technology produces a water-wash plate which is also durable to water-based ink, as well as solvent based and UV-ink.

This revolutionary plate eliminates the need to use toxic, environmentally damaging washout solvents, and allows processing by "Water", one of our most abundant natural resources.

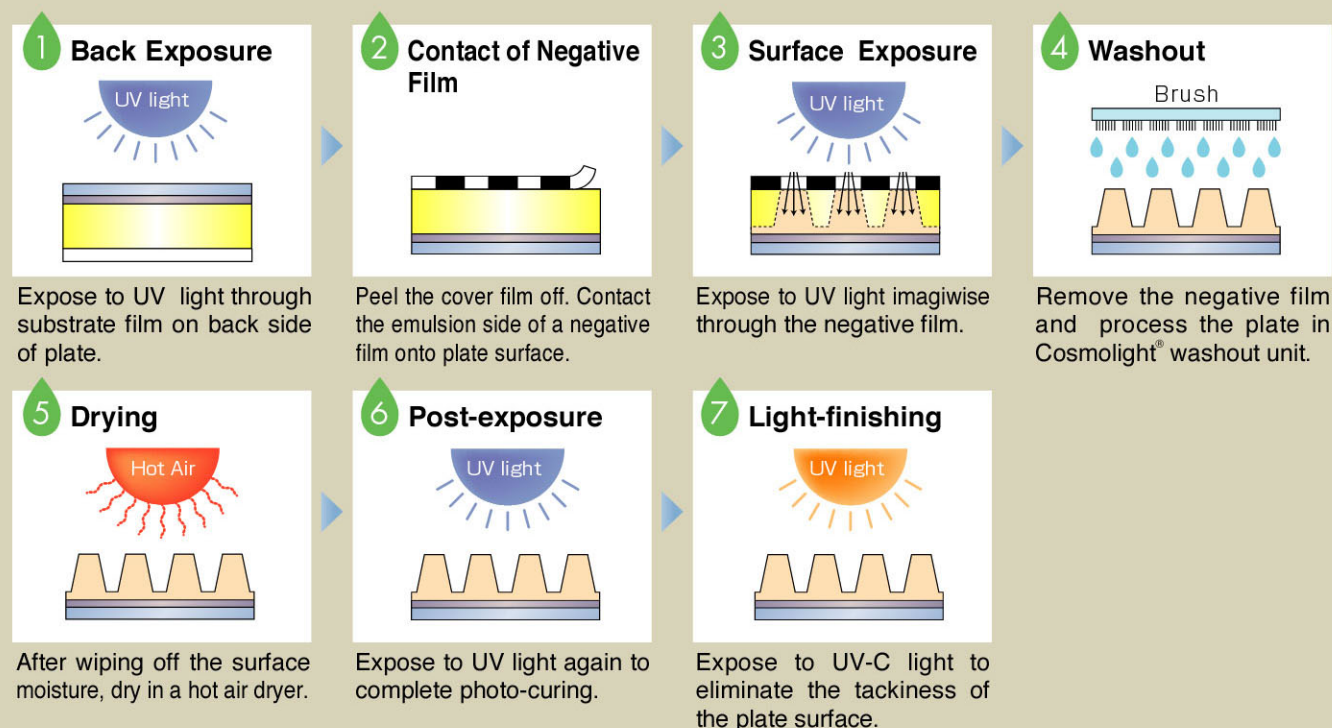
Discover a fresh advantage with Cosmolight®, the leading water-wash, environmentally friendly flexo plate.

Cosmolight® Advantages

1. Washout in plain tap water with a small amount of mild detergent.
2. Eliminates the use of dangerous hydrocarbon and hazardous washout solvents.
3. Plates are "press-ready" within an hour and "press-down time" is dramatically reduced.
4. Print quality is excellent with both water-based and alcohol-based ink.
5. High resolution and reproducibility provides sharp details.
6. Excellent ozone resistance.
7. Excellent ink transfer.
8. Excellent resistance to solvent ink. (type NS, NH, QS and QH)
9. Thickness tolerance allows for "kiss" impression settings.
10. "A closed washout system" allows for repeated use of the washout solution.



Cosmolight® Plate-making Process



Cosmolight® is a trademark of TOYOBO in Japan.

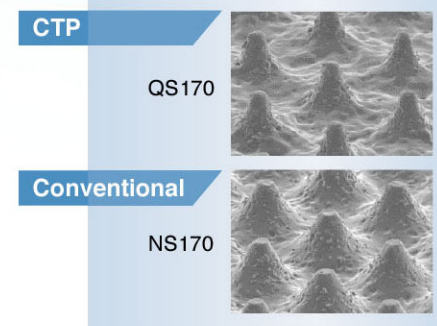
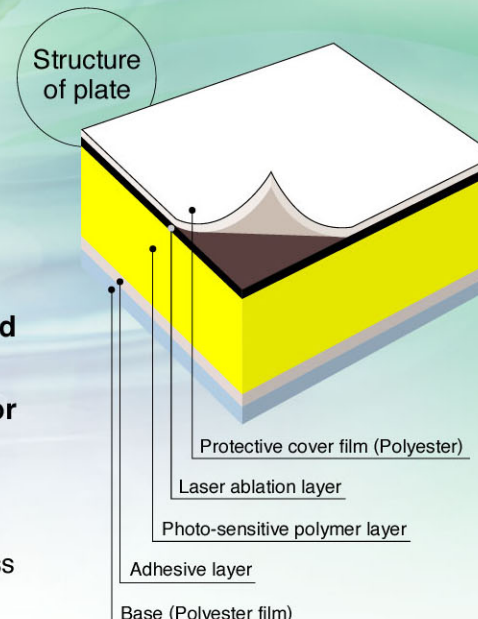
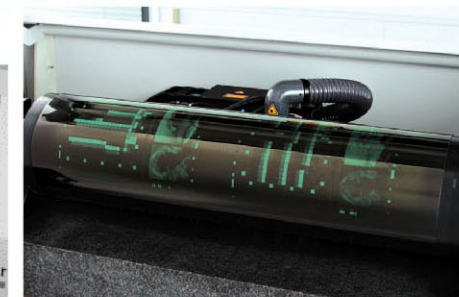
WATER-WASH FLEXO PLATE

Cosmolight®

CTP QS/QH series

Cosmolight® CTP Advantages

1. Higher and clearer reproduction of screen dots and letters
2. Solvent-free in the plate making process, toxic-free for the operator
3. Reduction in the total cost
 - a) Unnecessary to make film-negatives
 - b) Consistent plate quality due to simplification of pre-press process
 - c) Reduction in the personnel costs
4. Improvement of productivity
Shorter plate-making time due to the simplification of pre-press process



Cosmolight® CTP Type and application

| CTP | Cosmolight® QS | | Cosmolight® QH | |
|------------------------|---|--------------|---|--------------|
| Main Application | Flexible Packaging Paper Tag, Label | | Flexible Packaging Tag, Label | |
| Key Advantages | · Water-washable CTP flexo · Fine screen with deep reverse images and sharp letters · Good resistance to solvent ink · Usable on existing laser machines | | · Water-washable CTP flexo · Fine screen with deep reverse images and sharp letters · Good resistance to solvent ink · Usable on existing laser machines | |
| Thickness (mm / inch) | 1.14 / 0.045 | 1.70 / 0.067 | 1.14 / 0.045 | 1.70 / 0.067 |
| Hardness (shore A) | 77 ° | 71 ° | 81 ° | 76 ° |
| Base Polyester Film | 0.125mm (0.005") | | 0.125mm (0.005") | |
| Plate Size (mm / inch) | 635×762, 762×1016, 900×1200 25"×30", 30"×40", 35.4"×47.2" | | 635×762, 762×1016, 900×1200 25"×30", 30"×40", 35.4"×47.2" | |
| Image Reproduction | 200lpi / 1~95% Min. Fine Line 0.03mm (0.001") Min. Isolated Dot 0.20mm (0.008") | | 200lpi / 1~95% 0.03mm (0.001") 0.20mm (0.008") | |
| Processing Time | 15"~20" | 45"~60" | 20"~30" | 60"~75" |
| Back Exposure | 2'~8' | 2'~8' | 3'~9' | 3'~9' |
| Main Exposure | 8'~15' | 8'~15' | 8'~15' | 8'~15' |
| Washout | 10' | 10' | 10' | 10' |
| Dry | 3'~10' | 3'~10' | 3'~10' | 3'~10' |
| Post Exposure | 3'~10' | 3'~10' | 3'~10' | 3'~10' |
| Light Finishing | 3'~10' | 3'~10' | 3'~10' | 3'~10' |
| Ink Resistance | Excellent Excellent Good Good Poor | | Excellent Excellent Good Good Poor | |
| Water Based Ink | Excellent | | Excellent | |
| Alcohol Ink | Excellent | | Excellent | |
| Solvent Ink | Good | | Good | |
| UV Flexo Ink | Good | | Good | |
| Oil Based Ink | Poor | | Poor | |

| | Cosmolight® NR | | | | Cosmolight® NS | | | | Cosmolight® NH | | | | Cosmolight® NEO | | | |
|-------------------------|---|------------------|------------------|------------------|---|------------------|------------------|------------------|---|------------------|------------------|------------------|---|------------------|------------------|------------------|
| Main Application | Envelope | | | | Paper/Plastic Bag | | | | Flexible Packaging | | | | Tag & Label | | Napkin | |
| | Paper/Plastic Bag | | | | Tag & Label | | | | Tag & Label | | | | Envelope | | Tissue | |
| | Beverage Container | | | | Flexible Packaging | | | | | | | | Paper Bag | | Pre-print Liner | |
| | Varnish | | | | Beverage Container | | | | | | | | Beverage Container | | Varnish | |
| | | | | | | | | | | | | | | | | |
| Key Advantages | · Lowest dot-gain and clearer reverse printing | | | | · Lowest dot-gain and clearer reverse printing | | | | · Lowest dot-gain and clearer reverse printing | | | | · Excellent Ink transfer | | | |
| | · Outstanding ink transfer | | | | · Highest resolution and reproduction capability | | | | · Highest resolution and reproduction capability | | | | · Less dot gain and sharper screen image | | | |
| | · Easy mounting | | | | · Press-plate ready within one hour | | | | · Press-plate ready within one hour | | | | · Higher durability | | | |
| | · Excellent durability | | | | · Higher solvent ink resistance | | | | · Higher solvent ink resistance | | | | · Wider latitude of exposure time | | | |
| | · Press-plate ready within one hour | | | | | | | | | | | | · Easy mounting | | | |
| Thickness (mm / inch) | 1.14 (0.045") | 1.70 (0.067") | 2.54 (0.100") | 2.84 (0.112") | 1.14 (0.045") | 1.70 (0.067") | 2.54 (0.100") | 2.84 (0.112") | 1.14 (0.045") | 1.70 (0.067") | 2.54 (0.100") | 2.84 (0.112") | 1.14 (0.045") | 1.70 (0.067") | 2.54 (0.100") | 2.84 (0.112") |
| Hardness (shore A) | 71 ° | 60 ° | 52 ° | 50 ° | 77 ° | 71 ° | 65 ° | 64 ° | 81 ° | 76 ° | 71 ° | 70 ° | 76 ° | 68 ° | 61 ° | 60 ° |
| Base Polyester film | 0.125mm (0.005") | | | | 0.125mm / 0.188mm (0.005"/0.007") | | | | 0.125mm / 0.188mm (0.005"/0.007") | | | | 0.125mm / 0.250mm (0.005"/0.01") | | | |
| Plate Size (mm) | 457× 610 (18"×24") 610× 762 (24"×30") 762× 1016 (30"×40") 1067× 1524 (42"×60") | | | | 457× 610 (18"×24") 610× 762 (24"×30") 762× 1016 (30"×40") 1067× 1524 (42"×60") | | | | 457× 610 (18"×24") 610× 762 (24"×30") 762× 1016 (30"×40") 1067× 1524 (42"×60") | | | | 457× 610 (18"×24") 610× 762 (24"×30") 762× 1016 (30"×40") 1067× 1524 (42"×60") | | | |
| Image Reproduction | | | | | | | | | | | | | | | | |
| Screen Image | 175lpi 1～95% | | | | 175lpi 1～95% | | | | 175lpi 1～95% | | | | 150lpi 2～95% | | | |
| Min. Fine Line | 0.03mm (0.001") | | | | 0.03mm (0.001") | | | | 0.03mm (0.001") | | | | 0.05mm (0.002") | | | |
| Min. Isolated Dot | 0.10mm (0.004") | | | | 0.10mm (0.004") | | | | 0.10mm (0.004") | | | | 0.15mm (0.006") | | | |
| Processing Time | 1.14mm | | 1.70mm | | 1.14mm | | 1.70mm | | 1.14mm | | 1.70mm | | 1.14mm | | 1.70mm | |
| Back Exposure | 15"～20" | | 45"～60" | | 15"～20" | | 45"～60" | | 20"～30" | | 60"～75" | | 5"～15" | | 25"～40" | |
| Main Exposure | 2'～8' | | 2'～8' | | 2'～8' | | 2'～8' | | 3'～9' | | 3'～9' | | 3'～8' | | 3'～8' | |
| Washout | 8'～15' | | 8'～15' | | 8'～15' | | 8'～15' | | 8'～15' | | 8'～15' | | 8'～15' | | 8'～15' | |
| Dry | 10' | | 10' | | 10' | | 10' | | 10' | | 10' | | 20' | | 20' | |
| Post Exposure | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～4' | | 3'～4' | |
| Light Finishing | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | | 3'～10' | |
| Ink Resistance | | | | | | | | | | | | | | | | |
| Water Based Ink | Excellent | | | | Excellent | | | | Excellent | | | | Excellent | | | |
| Alcohol Ink | Excellent | | | | Excellent | | | | Excellent | | | | Excellent | | | |
| Solvent Ink | Fair | | | | Good | | | | Good | | | | Poor | | | |
| UV Ink | Good | | | | Good | | | | Good | | | | Good | | | |
| Oil Based Ink | Poor | | | | Poor | | | | Poor | | | | Poor | | | |

1) Other sizes and gauges are available with a minimum order and/or upon your request at an additional cost.

2) Exposure time, which depends on the kind of lamp, lamp age and image characteristics, should be re-adjusted for optimum plate quality. (Relief depth 0.7~0.9mm, UV-lamp Philips TLK40W/10R)

3) Washout time depends on relief depth required for each application. Water temperature should be 40°C(104°F).

4) Light-finishing time depends on the application and equipment used.