#### Y Type - Pad Printing Plates - Water Wash

| TYPE     | Base material |      | Thickne |      |       | Hardness | R               | elief Reproduct     | ion               | Typical      |
|----------|---------------|------|---------|------|-------|----------|-----------------|---------------------|-------------------|--------------|
|          |               | To   | tal     | Re   | lief  | Shore D  | Half Tone       | Minimum<br>isolated | Narrowest<br>Line | Application  |
|          |               | mm   | in      | mm   | in    |          |                 | dot                 |                   |              |
| WS83HY3  | Steel         | 0.83 | 0.033   | 0.56 | 0.022 | 65°      | 200L<br>(1-95%) | 120µm               | 40µm              | Pad Printing |
| WS95HY3  | Steel         | 0.95 | 0.037   | 0.68 | 0.027 | 65°      | 200L<br>(1-95%) | 120µm               | 40µm              | Pad Printing |
| WS73FHY3 | Steel         | 0.73 | 0.029   | 0.56 | 0.022 | 65°      | 200L<br>(1-95%) | 120µm               | 40µm              | Pad Printing |
| WS58HY3  | Steel         | 0.58 | 0.023   | 0.31 | 0.012 | 65°      | 200L<br>(1-95%) | 120µm               | 40µm              | Pad Printing |

Wash out - Water/by Brush

#### K Type -Pad Printing Plates - Water Wash

| TYPE      | Base material |      | Thickne | Thickness |       |         | Hardness Relief Reproduction |                     |                   | Typical      |
|-----------|---------------|------|---------|-----------|-------|---------|------------------------------|---------------------|-------------------|--------------|
|           |               | To   | tal     | Re        | lief  | Shore D | Half Tone                    | Minimum<br>isolated | Narrowest<br>Line | Application  |
|           |               | mm   | in      | mm        | in    |         |                              | dot                 | Line              |              |
| WS73HKII  | Steel         | 0.73 | 0.029   | 0.46      | 0.018 | 65°     | 200L<br>(1-98%)              | 100µm               | 20µm              | Pad Printing |
| WS 83HKII | Steel         | 0.83 | 0.033   | 0.56      | 0.022 | 65°     | 200L<br>(1-98%)              | 100µm               | 20µm              | Pad Printing |
| WS95HKII  | Steel         | 0.95 | 0.037   | 0.68      | 0.027 | 65°     | 200L<br>(1-98%)              | 100µm               | 20µm              | Pad Printing |

Wash out - Water/by Brush



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# **TORELIEF**

TORAY Photo-Sensitive Relief Printing Plate

# **■** Features of TORELIEF

- **Incomparable image reproduction**
- Its excellent image reproduction assures constant higher quality printing.
- 2 Good contact with negative film

  Matte finished surface of TORELIEF ensures good contact between the plate surface and negative film.
- **Easy and fast plate-making process**TORELIEF is an easy and fast plate to make with its quick exposure and quick washout properties.
- Color change for easier inspection

  TORELIEF W type plates feature color change by exposure, for easier plate inspection and mounting.
- **Environmentally friendly**All TORELIEF plates are made of environmentally friendly ingredients and require no chemicals in processing.
- **Superior ink receptivity**TORELIEF plates, especially soft and flexible BS, SS & U plates have superior ink receptivity which stands out among the competition and makes them ideal for business form and varnishing applications.
- Higher durability

  Due to tough & abrasion resistant polymer being used as one of its main components, TORELIEF features an extra long printing life.

# **Plate Type**

One of the biggest advantages of our product is the variety of plates' types.

This variety enables you to apply appropriate plate according to the job or the machine specification.

The table below shows comparison of each plate types' characteristics.

| Water Washable        | W-type    | Y-type            | K-type            |
|-----------------------|-----------|-------------------|-------------------|
| Polymer               | Nylon     | PVA/Water-soluble | PVA/Water-soluble |
| Image Reproducibility | Good      | Excellent         | Excellent         |
| Durability            | Excellent | Good              | Excellent         |
| Ink Transfer          | Excellent | Excellent         | Excellent         |

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# **■ TORELIEF Plate Line-up**

# **UV Flexo - Water washable Digital Plates**

| TYPE       | Base material  | Thickness |       | Hardness Relief Reproduction |       |         | ion             | Typical             |                   |                                |
|------------|----------------|-----------|-------|------------------------------|-------|---------|-----------------|---------------------|-------------------|--------------------------------|
|            |                | Tot       | tal   | Rel                          | lief  | Shore A | Half Tone       | Minimum<br>isolated | Narrowest<br>Line | Application                    |
|            |                | mm        | in    | mm                           | in    |         |                 | dot                 |                   |                                |
| DF114YSE   | Polyester film | 1.14      | 0.044 | 0.55                         | 0.022 | 75°     | 150L<br>(2-95%) | 150µm               | 40µm              | Label Printing & UV Varnish    |
| DF170YSE   | Polyester film | 1.70      | 0.066 | 0.65                         | 0.025 | 75°     | 150L<br>(2-95%) | 150µm               | 40µm              | Label Printing &<br>UV Varnish |
| DF114HRIII | Polyester film | 1.14      | 0.044 | 0.55                         | 0.022 | 70°     | 175L<br>(2-95%) | 100μm               | 30µm              | Label Printing                 |

Wash out - Water/by Brush

Usable Laser - "Fiber Lasers, IR Laser/Wavelength=2.0 J/sqcm"

#### **UV Flexo - Water washable Analogue Plates**

| TYPE     | Base material  | Thickness |       | Hardness |          |               |                 | Typical             |                   |                                |
|----------|----------------|-----------|-------|----------|----------|---------------|-----------------|---------------------|-------------------|--------------------------------|
|          |                | To        | tal   | Re       | lief     | Shore A       | Half Tone       | Minimum<br>isolated | Narrowest<br>Line | Application                    |
|          |                | mm        | in    | mm       | in       |               |                 | dot                 |                   |                                |
| WF114YSE | Polyester film | 1.14      | 0.044 | 0.55     | 0.022    | 75°           | 150L<br>(2-95%) | 150µm               | 40µm              | Label Printing &<br>UV Varnish |
| WF170YSE | Polyester film | 1.70      | 0.066 | 0.65     | 0.025    | 75°           | 150L<br>(2-95%) | 150µm               | 40µm              | Label Printing & UV Varnish    |
|          |                |           |       | V        | Vash out | - Water/by Br | ush             |                     |                   |                                |

## W Type - Water washable Digital

| DWF 95D3  | Polyester film | 0.95 | 0.037 | 0.65 | 0.026 | 55° | 175L<br>(2-98%) | 200µm | 40µm | Label Printing |
|-----------|----------------|------|-------|------|-------|-----|-----------------|-------|------|----------------|
| DWF 95BS4 | Polyester film | 0.95 | 0.037 | 0.72 | 0.028 | 30° | 150L<br>(2-98%) | 180µm | 40µm | Label Printing |

# Y Type - Water washable Digital Plates

| TYPE    | Base material  |               | Thickness |          |       | Hardness    | Hardness Relief Reproduction |                     |                   | Typical                    |  |
|---------|----------------|---------------|-----------|----------|-------|-------------|------------------------------|---------------------|-------------------|----------------------------|--|
|         |                | Tot           | tal       | l Relief |       | Shore D     | Half Tone                    | Minimum<br>isolated | Narrowest<br>Line | Application                |  |
|         |                | mm            | in        | mm       | in    |             |                              | dot                 | 0                 |                            |  |
| DWF80NM | Polyester film | 0.80          | 0.031     | 0.5      | -0.02 | 55°         | 200L<br>(1-98%)              | 100µm               | 20µm              | Label Printing &<br>Emboss |  |
| DWF95NM | Polyester film | 0.95          | 0.037     | 0.65     | 0.026 | 55°         | 200L<br>(1-98%)              | 100µm               | 20µm              | Label Printing &<br>Emboss |  |
|         | Wash out - Wa  | ater/by Brush |           |          |       | Usable Lase | er - "Fiber Las              | ers,IR Laser/W      | /avelength        | =830-1070nm"               |  |

# K Type - Water washable Digital Plates

| TYPE       | Base material  | Thickness |       |      |       | Hardness Relief Reproduction |                 |                 | ion       | Typical                    |
|------------|----------------|-----------|-------|------|-------|------------------------------|-----------------|-----------------|-----------|----------------------------|
|            |                | To        | tal   | Rel  | lief  | Shore D                      | Half Tone       | Minimum         | Narrowest | Application                |
|            |                | mm        | in    | mm   | in    |                              |                 | isolated<br>dot | Line      |                            |
| DWF80DKII  | Polyester film | 0.80      | 0.031 | 0.51 | 0.020 | 55°                          | 200L<br>(1-98%) | 100µm           | 20µm      | Label Printing &<br>Emboss |
| DWF95DKII  | Polyester film | 0.95      | 0.037 | 0.66 | 0.026 | 55°                          | 200L<br>(1-98%) | 100µm           | 20µm      | Label Printing &<br>Emboss |
| DWS73HKII  | Steel          | 0.73      | 0.029 | 0.46 | 0.018 | 65°                          | 200L<br>(1-98%) | 100µm           | 20µm      | Dry Offset &<br>Emboss     |
| DWS83HKII  | Steel          | 0.83      | 0.033 | 0.56 | 0.022 | 65°                          | 200L<br>(1-98%) | 100µm           | 20µm      | Dry Offset &<br>Emboss     |
| DWS 95HKII | Steel          | 0.95      | 0.037 | 0.68 | 0.027 | 65°                          | 200L<br>(1-98%) | 100μm           | 20µm      | Dry Offset &<br>Emboss     |

Wash out - Water/by Brush

Usable Laser - "Fiber Lasers, IR Laser/Wavelength=830-1070nm"

#### W Type - Water washable Analogue Plates

| TYPE     | Base material  | Thickness |       |      |       | Hardness | R               | ion                 | Typical           |                                 |
|----------|----------------|-----------|-------|------|-------|----------|-----------------|---------------------|-------------------|---------------------------------|
|          |                | To        | tal   | Rel  | ief   | Shore D  | Half Tone       | Minimum<br>isolated | Narrowest<br>Line | Application                     |
|          |                | mm        | in    | mm   | in    |          |                 | dot                 |                   |                                 |
| WF48II   | Polyester film | 0.5       | 0.02  | 0.35 | 0.014 | 55°      | 175L            | 200µm               | 40µm              | Label Printing                  |
| WF95DII  | Polyester film | 0.95      | 0.037 | 0.65 | 0.026 | 55°      | 175L            | 200µm               | 40µm              | Label Printing                  |
| WF95BII  | Polyester film | 0.95      | 0.037 | 0.73 | 0.029 | 40°      | 150L<br>(5=95%) | 200µm               | 50µm              | Label Printing & Business Forms |
| WF95BS2N | Polyester film | 0.95      | 0.037 | 0.73 | 0.029 | 30°      | 150L<br>-       | 200µm               | 50µm              | Business Forms                  |

## Y Type - Water washable Analogue Plates

| TYPE     | Base material  | Thickness |       |      |       | Hardness | R               | elief Reproduct | ion       | Typical                |
|----------|----------------|-----------|-------|------|-------|----------|-----------------|-----------------|-----------|------------------------|
|          |                | To        | tal   | Rel  | ief   | Shore D  | Half Tone       | Minimum         | Narrowest | Application            |
|          |                | mm        | in    | mm   | in    |          |                 | isolated<br>dot | Line      |                        |
| WF80DY3  | Polyester film | 0.8       | 0.031 | 0.5  | 0.02  | 55°      | 200L<br>(1-95%) | 120µm           | 40µm      | Label Printing         |
| WF95DY3  | Polyester film | 0.95      | 0.037 | 0.65 | 0.026 | 55°      | 200L<br>(1-95%) | 120µm           | 40µm      | Label Printing         |
| WS83HY3  | Steel          | 0.83      | 0.033 | 0.56 | 0.022 | 65°      | 200L<br>(1-95%) | 120µm           | 40µm      | Dry Offset &<br>Emboss |
| WS95HY3  | Steel          | 0.95      | 0.037 | 0.68 | 0.027 | 65°      | 200L<br>(1-95%) | 120µm           | 40µm      | Dry Offset &<br>Emboss |
| WS73FHY3 | Steel          | 0.73      | 0.029 | 0.56 | 0.022 | 65°      | 200L<br>(1-95%) | 120µm           | 40µm      | Dry Offset &<br>Emboss |
| WS58HY3  | Steel          | 0.58      | 0.023 | 0.31 | 0.012 | 65°      | 200L<br>(1-95%) | 120µm           | 40µm      | Dry Offset &<br>Emboss |

Wash out - Water/by Brush

#### **K Type - Water washable Analogue Plates**

| TYPE      | Base material  |      | Thickne | ess  |       | Hardness | F               | elief Reproduct     | tion              | Typical                |
|-----------|----------------|------|---------|------|-------|----------|-----------------|---------------------|-------------------|------------------------|
|           |                | Tot  | tal     | Re   | lief  | Shore D  | Half Tone       | Minimum<br>isolated | Narrowest<br>Line | Application            |
|           |                | mm   | in      | mm   | in    |          |                 | dot                 |                   |                        |
| WF80DKII  | Polyester film | 0.80 | 0.031   | 0.51 | 0.020 | 55°      | 200L<br>(1-98%) | 100µm               | 20µm              | Label Printing         |
| WF95DKII  | Polyester film | 0.95 | 0.037   | 0.66 | 0.026 | 55°      | 200L<br>(1-98%) | 100µm               | 20µm              | Label Printing         |
| WS73HKII  | Steel          | 0.73 | 0.029   | 0.46 | 0.018 | 65°      | 200L<br>(1-98%) | 100µm               | 20µm              | Dry Offset &<br>Emboss |
| WS 83HKII | Steel          | 0.83 | 0.033   | 0.56 | 0.022 | 65°      | 200L<br>(1-98%) | 100µm               | 20µm              | Dry Offset &<br>Emboss |
| WS95HKII  | Steel          | 0.95 | 0.037   | 0.68 | 0.027 | 65°      | 200L<br>(1-98%) | 100µm               | 20µm              | Dry Offset &<br>Emboss |

Wash out - Water/by Brush

