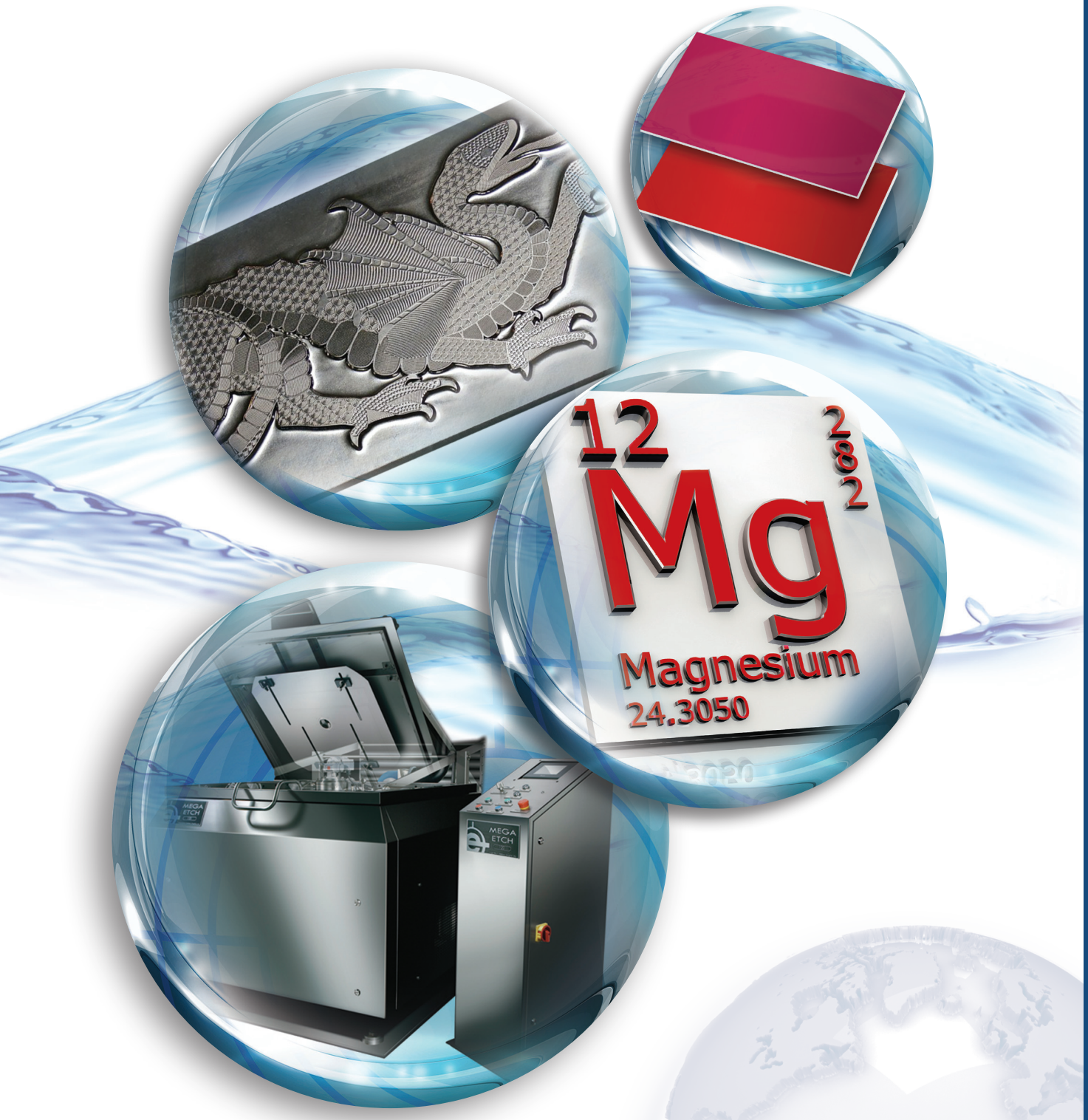
LUXFER®
GRAPHIC ARTS

12 STEPS TO SUPERIOR MAGNESIUM ETCHING



GLOBAL LEADER IN ENGRAVING METALS AND ETCHING CHEMICALS

12 Steps to Superior Magnesium Etching

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12 STEPS TO SUPERIOR MAGNESIUM ETCHING

1. Storage
For optimized results, always store Luxfer Precision Magnesium photo engraving plates in a cool, dry place.

2. Artwork
Inspect negative carefully for pinholes in the black areas. Pinholes cause pimples if they are not painted out with opaquing fluid. Image edges should be sharp straight lines, otherwise ragged shoulders may result.

3. Exposure
Correct exposure is essential to successful etching. Using a Stouffer 21-Step Sensitivity Guide, expose Red Top™ Plates to a solid Step 6-8; and Hydro-Solve® to a Step 9-11. (Try higher end of range for fine detail work).

4. Developing
Development can be by either automatic or hand processing. For automatic processing, follow the equipment manufacturer's instructions. Hand processing can be accomplished in a dip tank, tray or spray processor.

Hydro-Solve®: Mix one part Hydro-Solve® Developer with four parts water. The solution may be used at room temperature (minimum of 20°C/68°F) or heated to (maximum of 27-29°C/ 80-84°F). At room temperature allow approx six minutes for developing. Plates will develop faster when solution is heated. Do not overdevelop. Do not wipe plate while it is in the developer solution. Do not add back concentrate developer to compensate for evaporation loss. Change the solution when developing time lengthens. Optimum results are obtained with fresh developer. ***Caution***… Hydro-Solve® coating can be easily damaged as it comes out of the developer solution.

Red Top™: Immerse exposed plate in dip tank or tray with moderate agitation for approximately two minutes, or in spray processor for approximately one minute. After the unexposed coating has been washed away, remove the plate and spray or rinse with fresh, clean developer. ***Caution***… Red Top™ coating can be easily damaged as it comes out of the developer; harden the coating by running cold water over it until the image appears glossy. Dry the plate with a clean air current.

5. Post Developing
Hydro-Solve®: Remove plate from developer solution and rinse with lukewarm water to remove excess developer and resist. After initial rinse, continue to hold plate under running water and wipe with a soft, clean pad or cloth using light, even horizontal and vertical strokes. Dry with clean compressed air or by blotting with a clean, absorbent cloth.

Red Top™: After the solvent developer has dried on the plate. Finish by heating the plate to 120-150°C (250-300°F) for at least two minutes – up to four minutes for thicker gauges.

6. Touch-up
It is recommended to paint edges of plate with re-touching lacquer. Examine plate for flaws in the image areas and touch up as needed with staging solution. Many solutions require heating to cure quickly. With Red Top™, you can touch up the Red Top™ before heating the plate per step 5 - then cure both the Red Top™ coating and staging solution simultaneously. Hydro-Solve® plates do not require "burn-in" of the coating but can be heated to cure the staging solution.

7. Weigh
Prior to etching, record initial plate weight on your Luxfer etching log. The scale must be capable of weighing weight to the nearest 7 gram / ¼ ounce.

8. Descum
Hydro-Solve®: A light descum with a 1% to 2% solution of nitric acid mixed with water is recommended. It is important that Hydro-Solve® is not over descumed. Be particularly sensitive with fine line and screen work. Descumming chalks is a good alternative for fine lines and screens. Rinse the plate thoroughly with water after descum.

Red Top™: A generally accepted descum formula is 200 ml of 40° Baumé nitric acid plus 60 ml of 14° Baumé gum arabic, added to water to make 4 litres of working solution. Apply the solution liberally to the surface of the plate and lightly rub with pad or sponge. Rinse and repeat application. Rinse the plate thoroughly with water after descum.

9. Plate Protector
An application of Express Guard® or Visko® Plate Protector/Wetting Agent/Gum Arabic Solution is recommended prior to etching to enhance performance of etching bath by preventing oxidation which can cause pimples.

10. Etch
Etch plates according to recommendations of etching machine manufacturers and Luxfer Graphic Arts technical data sheets.

11. Replenish Bath
Record plate weight after etching this is to determine correct acid replenishment. Refer to acid addition chart provided separately. Check dip gauge and restore proper level in bath by adding water or draining excess.

12. Post-Etching
Wash plate with hot water or detergent solution. Rinse plate with hot water and then dry by blotting, heating or clean air stream. Remove the residual photo-resist coating from the plate if desired. Commercially made strippers, solvents or solvent blends can be used to remove Red Top™ coating. For Hydro-Solve® use non solvent Hydro-Solve® Coating Remover.

If you require information for producing micro-etching textures please contact Luxfer Graphic Arts.

GAUGES AND FORMATS

Gauge Range	***Standard Formats***
1.00 mm / .040"	457 x 610 mm / 18 x 24"
1.50 mm / .059"	500 x 650 mm / 20 x 26"
1.63 mm / .064"	610 x 914 mm / 24 x 36"
1.75 mm / .069"	610 x 1016 mm / 24 x 40"
2.00 mm / .079"	762 x 1016 mm / 30 x 40"
2.50 mm / .098"	
3.00 mm / .118"	
4.00 mm / .157"	
5.00 mm / .197"	
6.35 mm / .250"	
7.00 mm / .276"	
9.53 mm / .375"	

(Other formats available)



COMPLETE PHOTO ENGRAVING PRODUCT RANGE

Photo Engraving Plates
Hydro-Solve® Magnesium
Red Top™ Magnesium

Photo Engraving Developers
Hydro-Solve® - Aqueous Developer
Red Top™ - MD Developer (Solvent)

Etching Additives
Rev-Flex®
Mago 20X®
Elektron Etch™
Hydro-Etch®
X5K
X-Flex

Sundries
Hydro-Solve® Coating Remover
Express Guard® Plate Protector
Visko® Wetting Agent
Wetting Agent
Hydro-Solve® Spray Resist



EQUIPMENT

- MegaEtch™ 120L
- MegaEtch™ 60L
- MegaEtch™ 45L

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Visit **www.luxferga.com** for more information.

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