

## SECTION G — PHYSICS

**G03 PHOTOGRAPHY; CINEMATOGRAPHY; ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ELECTROGRAPHY; HOLOGRAPHY****G03F PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR** (phototypographic composing devices B41B; photosensitive materials or processes for photographic purposes G03C; electrography, sensitive layers or processes G03G)**Note(s) [5]**

In this subclass, the following terms or expressions are used with the meanings indicated:

- "photosensitive" means not only sensitive of electromagnetic radiation but also to corpuscular radiation;
- "photosensitive compositions" covers photosensitive substances, e.g. quinonediazides, and, if applicable, binders or additives;
- "photosensitive materials" covers the photosensitive compositions, e.g. photoresists, the bases carrying them and, if applicable, auxiliary layers.

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| <p><b>1/00</b>    <b>Originals for photomechanical production of textured or patterned surfaces, e.g. masks, photo-masks or reticles; Mask blanks or pellicles therefor; Containers specially adapted therefor; Preparation thereof [1, 3, 2006.01, 2012.01]</b></p> <p><b>Note(s) [2012.01]</b></p> <p>In this main group, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.</p> <p>1/20    • Masks or mask blanks for imaging by charged particle beam [CPB] radiation, e.g. by electron beam; Preparation thereof <b>[2012.01]</b></p> <p>1/22    • Masks or mask blanks for imaging by radiation of 100 nm or shorter wavelength, e.g. X-ray masks, extreme ultra-violet [EUV] masks; Preparation thereof <b>[2012.01]</b></p> <p>1/24    • • Reflection masks; Preparation thereof <b>[2012.01]</b></p> <p>1/26    • Phase shift masks [PSM]; PSM blanks; Preparation thereof <b>[2012.01]</b></p> <p>1/28    • • with three or more diverse phases on the same PSM; Preparation thereof <b>[2012.01]</b></p> <p>1/29    • • Rim PSM or outrigger PSM; Preparation thereof <b>[2012.01]</b></p> <p>1/30    • • Alternating PSM, e.g. Levenson-Shibuya PSM; Preparation thereof <b>[2012.01]</b></p> <p>1/32    • • Attenuating PSM [att-PSM], e.g. halftone PSM or PSM having semi-transparent phase shift portion; Preparation thereof <b>[2012.01]</b></p> <p>1/34    • • Phase-edge PSM, e.g. chromeless PSM; Preparation thereof <b>[2012.01]</b></p> <p>1/36    • Masks having proximity correction features; Preparation thereof, e.g. optical proximity correction [OPC] design processes <b>[2012.01]</b></p> <p>1/38    • Masks having auxiliary features, e.g. special coatings or marks for alignment or testing; Preparation thereof <b>[2012.01]</b></p> <p>1/40    • • Electrostatic discharge [ESD] related features, e.g. antistatic coatings or a conductive metal layer around the periphery of the mask substrate <b>[2012.01]</b></p> | <p>1/42    • • Alignment or registration features, e.g. alignment marks on the mask substrates <b>[2012.01]</b></p> <p>1/44    • • Testing or measuring features, e.g. grid patterns, focus monitors, sawtooth scales or notched scales <b>[2012.01]</b></p> <p>1/46    • • Antireflective coatings <b>[2012.01]</b></p> <p>1/48    • • Protective coatings <b>[2012.01]</b></p> <p>1/50    • Mask blanks not covered by groups G03F 1/20-G03F 1/26; Preparation thereof <b>[2012.01]</b></p> <p>1/52    • Reflectors <b>[2012.01]</b></p> <p>1/54    • Absorbers, e.g. opaque materials <b>[2012.01]</b></p> <p>1/56    • • Organic absorbers, e.g. photo-resists <b>[2012.01]</b></p> <p>1/58    • • having two or more different absorber layers, e.g. stacked multilayer absorbers <b>[2012.01]</b></p> <p>1/60    • Substrates <b>[2012.01]</b></p> <p>1/62    • Pellicles or pellicle assemblies, e.g. having membrane on support frame; Preparation thereof <b>[2012.01]</b></p> <p>1/64    • • characterised by the frames, e.g. structure or material thereof <b>[2012.01]</b></p> <p>1/66    • Containers specially adapted for masks, mask blanks or pellicles; Preparation thereof <b>[2012.01]</b></p> <p>1/68    • Preparation processes not covered by groups G03F 1/20-G03F 1/50 <b>[2012.01]</b></p> <p>1/70    • • Adapting basic layout or design of masks to lithographic process requirements, e.g. second iteration correction of mask patterns for imaging <b>[2012.01]</b></p> <p>1/72    • • Repair or correction of mask defects <b>[2012.01]</b></p> <p>1/74    • • • by charged particle beam [CPB], e.g. focused ion beam <b>[2012.01]</b></p> <p>1/76    • • Patterning of masks by imaging <b>[2012.01]</b></p> <p>1/78    • • • by charged particle beam [CPB], e.g. electron beam <b>[2012.01]</b></p> <p>1/80    • • Etching <b>[2012.01]</b></p> <p>1/82    • • Auxiliary processes, e.g. cleaning <b>[2012.01]</b></p> <p>1/84    • • • Inspecting <b>[2012.01]</b></p> <p>1/86    • • • • by charged particle beam [CPB] <b>[2012.01]</b></p> <p>1/88    • prepared by photographic processes for producing originals simulating relief <b>[2012.01]</b></p> |
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- 1/90 • prepared by montage processes [2012.01]
- 1/92 • prepared from printing surfaces [2012.01]
- 3/00 Colour separation; Correction of tonal value**  
(photographic copying apparatus in general G03B) [1, 2006.01]
- 3/02 • by retouching [1, 2006.01]
- 3/04 • by photographic means [1, 2006.01]
- 3/06 • • by masking [1, 2006.01]
- 3/08 • by photoelectric means [1, 2006.01]
- 3/10 • Checking the colour or tonal value of separation negatives or positives [1, 2006.01]
- 5/00 Screening processes; Screens therefor** [1, 2006.01]
- 5/02 • by projecting methods (cameras G03B) [1, 2006.01]
- 5/04 • • changing the screen effect [1, 2006.01]
- 5/06 • • changing the diaphragm effect [1, 2006.01]
- 5/08 • • using line screens [1, 2006.01]
- 5/10 • • using cross-line screens [1, 2006.01]
- 5/12 • • using other screens, e.g. granulated screen [1, 2006.01]
- 5/14 • by contact methods [1, 2006.01]
- 5/16 • • using grey half-tone screens [1, 2006.01]
- 5/18 • • using colour half-tone screens [1, 2006.01]
- 5/20 • using screens for gravure printing [1, 2006.01]
- 5/22 • combining several screens; Elimination of moire [1, 2006.01]
- 5/24 • by multiple exposure, e.g. combined processes for line photo and screen [1, 2006.01]
- 7/00 Photomechanical, e.g. photolithographic, production of textured or patterned surfaces, e.g. printed surfaces; Materials therefor, e.g. comprising photoresists; Apparatus specially adapted therefor**  
(using photoresist structures for special production processes, see the relevant places, e.g. B44C, H01L, e.g. H01L 21/00, H05K) [1, 3, 5, 2006.01]
- 7/004 • Photosensitive materials (G03F 7/12, G03F 7/14 take precedence) [5, 2006.01]
- 7/008 • • Azides (G03F 7/075 takes precedence) [5, 2006.01]
- 7/012 • • • Macromolecular azides; Macromolecular additives, e.g. binders [5, 2006.01]
- 7/016 • • Diazonium salts or compounds (G03F 7/075 takes precedence) [5, 2006.01]
- 7/021 • • • Macromolecular diazonium compounds; Macromolecular additives, e.g. binders [5, 2006.01]
- 7/022 • • Quinonediazides (G03F 7/075 takes precedence) [5, 2006.01]
- 7/023 • • • Macromolecular quinonediazides; Macromolecular additives, e.g. binders [5, 2006.01]
- 7/025 • • Non-macromolecular photopolymerisable compounds having carbon-to-carbon triple bonds, e.g. acetylenic compounds (G03F 7/075 takes precedence) [5, 2006.01]
- 7/027 • • Non-macromolecular photopolymerisable compounds having carbon-to-carbon double bonds, e.g. ethylenic compounds (G03F 7/075 takes precedence) [5, 2006.01]
- 7/028 • • • with photosensitivity-increasing substances, e.g. photoinitiators [5, 2006.01]
- 7/029 • • • • Inorganic compounds; Onium compounds; Organic compounds having hetero atoms other than oxygen, nitrogen or sulfur [5, 2006.01]
- 7/031 • • • • Organic compounds not covered by group G03F 7/029 [5, 2006.01]
- 7/032 • • • with binders [5, 2006.01]
- 7/033 • • • • the binders being polymers obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. vinyl polymers [5, 2006.01]
- 7/035 • • • • the binders being polyurethanes [5, 2006.01]
- 7/037 • • • • the binders being polyamides or polyimides [5, 2006.01]
- 7/038 • • Macromolecular compounds which are rendered insoluble or differentially wettable (G03F 7/075 takes precedence; macromolecular azides G03F 7/012; macromolecular diazonium compounds G03F 7/021) [5, 2006.01]
- 7/039 • • Macromolecular compounds which are photodegradable, e.g. positive electron resists (G03F 7/075 takes precedence; macromolecular quinonediazides G03F 7/023) [5, 2006.01]
- 7/04 • • Chromates (G03F 7/075 takes precedence) [1, 5, 2006.01]
- 7/06 • • Silver salts (G03F 7/075 takes precedence) [1, 5, 2006.01]
- 7/07 • • • used for diffusion transfer [5, 2006.01]
- 7/075 • • Silicon-containing compounds [5, 2006.01]
- 7/085 • • Photosensitive compositions characterised by adhesion-promoting non-macromolecular additives (G03F 7/075 takes precedence) [5, 2006.01]
- 7/09 • • characterised by structural details, e.g. supports, auxiliary layers (supports for printing plates in general B41N) [5, 2006.01]
- 7/095 • • • having more than one photosensitive layer (G03F 7/075 takes precedence) [5, 2006.01]
- 7/105 • • • having substances, e.g. indicators, for forming visible images [5, 2006.01]
- 7/11 • • • having cover layers or intermediate layers, e.g. subbing layers [5, 2006.01]
- 7/115 • • • having supports or layers with means for obtaining a screen effect or for obtaining better contact in vacuum printing [5, 2006.01]
- 7/12 • Production of screen printing forms or similar printing forms, e.g. stencils [1, 2006.01]
- 7/14 • Production of collotype printing forms [1, 2006.01]
- 7/16 • Coating processes; Apparatus therefor (applying coatings to base materials in general B05; applying photosensitive compositions to the base for photographic purposes G03C 1/74) [1, 2006.01]
- 7/18 • • Coating curved surfaces [1, 2006.01]
- 7/20 • Exposure; Apparatus therefor (photographic printing apparatus for making copies G03B 27/00) [1, 4, 2006.01]
- 7/207 • • Means for focusing, e.g. automatically (combination of positioning and focusing G03F 9/02; systems for automatic generation of focusing signals in general G02B 7/28; means for automatic focusing of projection printing apparatus G03B 27/34) [4, 2006.01]
- 7/213 • • Exposing with the same light pattern different positions of the same surface at the same time (G03F 7/207 takes precedence) [4, 2006.01]
- 7/22 • • Exposing sequentially with the same light pattern different positions of the same surface (G03F 7/207 takes precedence) [1, 4, 2006.01]
- 7/23 • • • Automatic means therefor [4, 2006.01]
- 7/24 • • Curved surfaces [1, 2006.01]

- 7/26 • Processing photosensitive materials; Apparatus therefor (G03F 7/12-G03F 7/24 take precedence) [3, 5, 2006.01]
- 7/28 • • for obtaining powder images (G03F 3/10 takes precedence) [5, 2006.01]
- 7/30 • • Imagewise removal using liquid means [5, 2006.01]
- 7/32 • • • Liquid compositions therefor, e.g. developers [5, 2006.01]
- 7/34 • • Imagewise removal by selective transfer, e.g. peeling away [5, 2006.01]
- 7/36 • • Imagewise removal not covered by groups G03F 7/30-G03F 7/34, e.g. using gas streams, using plasma [5, 2006.01]
- 7/38 • • Treatment before imagewise removal, e.g. prebaking [5, 2006.01]
- 7/40 • • Treatment after imagewise removal, e.g. baking [5, 2006.01]
- 7/42 • • Stripping or agents therefor [5, 2006.01]
- 9/00 **Registration or positioning of originals, masks, frames, photographic sheets or textured or patterned surfaces, e.g. automatically** (G03F 7/22 takes precedence; preparation of photographic masks G03F 1/00; within photographic printing apparatus for making copies G03B 27/00) [1, 4, 2006.01]
- 9/02 • combined with means for automatic focusing (automatic focusing in general G02B 7/09; systems for automatic generation of focusing signals G02B 7/28) [4, 2006.01]