

Title (en)

SCRATCH-RESISTANT REAR PROJECTION SCREEN AND METHOD FOR PRODUCING THE SAME

Title (de)

KRATZUNEMPFLINDLICHER RÜCKPROJEKTIONSSCHIRM UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

ECRAN DE RETROPROJECTION RESISTANT AUX RAYURES ET SON PROCEDE DE PRODUCTION

Publication

EP 1652001 A1 20060503 (DE)

Application

EP 04719963 A 20040312

Priority

- EP 2004002599 W 20040312
- DE 10336129 A 20030804

Abstract (en)

[origin: DE10336129A1] A back projection screen comprises at least one light scattering polymethylmethacrylate layer comprising a polymethylmethacrylate matrix and spherical particles (A) and spherical particles (B) having different average particle sizes with at least one particle type having a refractive index that is different to that of polymethylmethacrylate matrix. A back projection screen (I) comprises at least one light scattering polymethylmethacrylate layer comprising a polymethylmethacrylate matrix and spherical particles (A) and spherical particles (B) having different average particle sizes whereby (A) have an average particle size of 0.1-40 μm and a refractive index that is different to that of polymethylmethacrylate matrix by 0.02-2 and (B) have an average particle size of 10-150 μm and a refractive index that is different to that of polymethylmethacrylate matrix by 0-0.2 and the total concentration of (A) and (B) is 1-60 wt. % (with respect to the light scattering polymethylmethacrylate layer) such that the ratio of the concentration of particles (A) CPA , thickness of the light scattering layer d_s and particle size of (A) DPA as defined by $\text{CPA} \cdot d_s / \text{DPA}^3$ is 0.001-0.015 wt.%.mm/ μm^3 and the corresponding ratio for particles (B), $\text{CPB} \cdot d_s / \text{DPB}^3$ is 0.000005-0.002 wt.%.mm/ μm^3 and the ratio of the square of the average surface roughness of the polymethylmethacrylate layer R_z to the cube of the particle size of (B) R_z^2 / DPB^3 is 0.0002-0.1300 μm^{-1} . An independent claim is included for a process for the production of the screen (I) by extrusion of a composition comprising polymethylmethacrylate, particles (A) and particles (B).

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IPC 8 full level

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