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(71) Applicant *(for all designated States except US)*: **AKZO NOBEL N.V.** [NL/NL]; Velperweg 76, NL-6824 BM Arnhem (NL).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **DAVIES, Gerald, Howard** [GB/GB]; 11 Castleton Grove, Jesmond, Newcastle-upon-Tyne NE2 2HD (GB). **JACKSON, Paul, Anthony** [GB/GB]; 38 Hazelmoor, Hebburn Village, Hebburn, Tyne & Wear (GB).

(74) Agent: **SCHALKWIJK, Pieter, Cornelis**; Akzo Nobel N.V., Intellectual Property Dept. (Dept. AIP), P.O. Box 9300, NL-800 SB Arnhem (NL).

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(54) Title: PRIMER COATING OF STEEL

(57) Abstract: The present invention relates to a process for primer coating a steel substrate with a primer coating comprising a silica binder, wherein the binder comprises an aqueous silica sol having a SiO_2/M_2O mole ratio, wherein M represents the total of alkali metal and ammonium ions, of at least 6:1, and wherein after the primer coating has dried to the extent that is is touch dry, the coated substrate is immersed in water or alternatively kept in an atmosphere with a relative humitiy of at least 50 %. The present invention also relates to a process for primer coating a steel substrate with a primer coating comprising a silicate or silicate binder, wherein the binder comprises an aqueous silica sol or alkali metal silicate having a SiO_2/M_2O mole ratio, wherein M represents the total of alkali metal and ammonium ions, of at least 6:1, and wherein after the primer coating has dried to the extent that it is touch dry, the coated substrate prior to immersion in water or storage in an atmosphere with a relative humidity of at least 80 % is treated with a film strength-enhancing solution.