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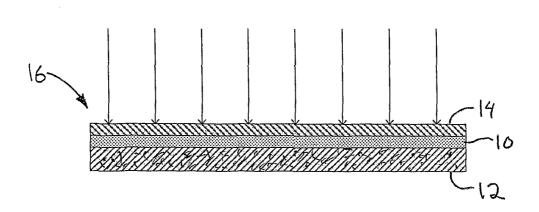
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(54) Title: METHODS FOR COATING SURFACES WITH METAL AND PRODUCTS MADE THEREBY



(57) Abstract: According to the process for coating metal substrates, a light-sensitive (or photo-sensitive) bonding material (10), such as an emulsion or a photopolymer film, is used to adhere metal (14) directly to a substrate (12) to provide various forms of metal coatings on the substrate (12). The light-sensitive bonding material (10) is generally applied directly between the substrate (12) and the metal layer (14). The light-sensitive bonding material (10) is applied under conditions (e.g., lighting and temperature) that prevent premature curing of the light-sensitive bonding material (10). The light-sensitive bonding material (10) applied between the substrate (12) and metal (14) is then dried and exposed to light to cure the light-sensitive bonding material (10) in selected areas, causing the metal (14) to adhere to the substrate (12) in the selected areas.





For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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C. DOCT	JMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap	opropriate, of the relevant passages	Relevant to claim No.	
Y	US 5,891,289 A (ZEMEL) 06 April 1999 (06.04.199	9), Abstract, Col. 2.	1-13	
-			1.20	
Y	US 4,073,777 A (O'NEILL et al) 14 February 1978 (14.02.1978), Abstract, Col. 1-2, Col. 6,			
	lines 42-68, Col. 11.	4 (25 12 1984)		
A	US 4,490,410 (TAKIYAMA et al) 25 December 198	7 (23.12.1707)		
A	US 5,378,298 A (WILLIAMS et al) 03 January 1995 (03.01.1995)			
A	US 5,591,801 A (WEISSENFLUH et al) 14 September 1999 (14.09.1999.)			
A	US 6,692,611 B2 (OXMAN et al) 17 February 2004 (17.02.2004.)		·	
A	US 482,604 A (WERNER) 13 September 1892 (13.0	9.1892.)	:	
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Further	documents are listed in the continuation of Box C.	See patent family annex.	·	
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