

Title (en)  
Process for lubricating the surface of metallic pieces made of copper and iron or copper alloys in cold or hot deforming operations, and means for using this lubrication.

Title (de)  
Verfahren zur Schmierung der Oberfläche metallischer Werkstoffe aus Kupfer oder Eisen- und Kupferlegierungen während der Kalt- oder Warmumformung und Mittel, um diese Schmierung auszuführen.

Title (fr)  
Procédé de lubrification de la surface de pièces métalliques, en cuivre ou en alliages à base de fer ou de cuivre, devant être déformées à froid ou à chaud et moyens de lubrification mis en oeuvre.

Publication  
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Application  
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Priority  
FR 8715437 A 19871106

Abstract (en)  
Process for lubricating the surface of metal pieces made of copper or of iron- or copper-based alloys, intended to be deformed when cold or with heating, which process comprises a traditional surface preparation and the application of at least one lanthanide halide.

Abstract (fr)  
Procédé de lubrification de la surface de pièces métalliques, en cuivre ou en alliages à base de fer ou de cuivre, destinées à être déformées à froid ou à chaud, lequel procédé comprend une préparation de surface traditionnelle et l'application d'au moins un halogénure de lanthanide.

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IPC 8 full level  
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• [AD] US 3830280 A 19740820 - LARSEN E  
• [A] GB 799192 A 19580806 - SHELL RES LTD  
• [A] US 3215630 A 19651102 - MARYANN COMPTON, et al

Cited by  
EP0442661A1; EP0452189A1; FR2660930A1; JPH04227688A; WO9304150A1

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