Here is the abstract with which I will intend your conference.
Sincerely yours

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Thermal expansion coefficient of the aluminium containing nanotubes of carbon

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Abstract

The aim of this note is the study of the thermal expansion coefficient of aluminium containing multiwall nanotubes of carbon as a function of temperature. The measurements have been caried out in the temperature range from room temperature up to 600˚C.
$\alpha_x(T)$ et $\alpha_y(T)$ have been measured along the parallel direction to the rolling direction and the normal direction to the rolling direction in the rolling plan, respectively. While, $\alpha_z(T)$ has been measured along the normal direction to the rolling plan.
Les résultats obtenus montrent que les trois courbes sont différentes sur l'ensemble du domaine de température étudié.
$\alpha_x(T)$ et $\alpha_y(T)$, each of them, present a dilatometric peak around 90˚C with different heights. The one of $\alpha_x(T)$ is superior to that of $\alpha_y(T)$. From 110˚C, we assume that the two curves overlope and the thermal expansion coefficient is equal to 15.10^{-6} ˚C^{-1}. Beyond the temperature of 360˚C, the thermal expansion coefficient $\alpha_x(T)$ becomes superior to $\alpha_y(T)$ over the rest of the temperature range. At 600˚C, $\alpha_y(T)$ is equal to 25.10^{-6} ˚C^{-1}, whereas $\alpha_x(T)$ reaches 30.10^{-6} ˚C^{-1}. In contrast, $\alpha_z(T)$ does not show the cited above dilatometric anomalous and its value is inferior to that of $\alpha_y(T)$ over all the domaine of temperature. Beyound 340˚C, it becomes monotonous, changes laniary up to 600˚C and does not exceed the value of 10.10^{-6} ˚C^{-1}. This order of magnitude of the thermal expansion coefficient has not been obtained before. It is three times inferior to the thermal expansion coefficient of the alassical aluminium alloys and 2 to 3 times more less than that of the aluminium alloys obtained by rapid solidification routes. We assume that the important decrease in the thermal expansion coefficient in a wide domain of temperature and the presence of the horizontal vatiation where $\alpha_z(T)$ is maintained constant is an important result and promises good prospects.

Key words : Nnanotube, Aluminium alloys, Thermal expansion coefficient, Multiwall nanotube, Rapidly solidified aluminium alloys.

CORRIGER (pour Kiev)

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