Flame exhaust protection on Ariane Launch Pad

G. REVEL (1), G. TURZO (2)

(1) SEGULA
25 Avenue Gaspard Coriolis 31100 Toulouse, France
EMail: gilles.revel@segula.fr

(2) CNES
18 avenue Edouard Belin, 31401, Toulouse, France
EMail: guy.turzo@cnes.fr

ABSTRACT

On a Launch pad, at engines ignition, the engines flow is deflected by the flame exhaust. During a few seconds, they undergo the thermal and abrasive effect of flow. So far, the material used at CSG to cover the flame exhaust resists only in some shooting. So, we have looking for some new different materials more resistant. Calculations and measures showed that the thermal effect was not significant. In final, we have tested tree materials in Ariane 5 flame exhaust, mainly selected for their abrasion resistance.

This paper summarizes the different analyses, qualification, and design that have been undertaken for the Ariane family launch Pad and in particular Ariane 6.