

MB-634

OK-5135  
COPY 1 OF 1

From [unclear] 104

P.E.

12 June 1963

Dear Lenny,

As you probably know, [redacted] visited our plant to discuss the heat insulation and window aspects of their system. This is to report to you our concern about some of the problems.

STATINTL

It is not appropriate to comment on the total technical requirement on the window since it is not known what optical degradation has been allowed in the overall tolerance apportionment. While we are sure that this optical quality specification must be "tight", no exact numbers were discussed. It is therefore impossible for us to decide if any proposed solution will permit the required performance to be achieved.

However, we were able to point out two aspects which might by their very nature preclude any fully satisfactory solution for their system. First, the thermal gradient which must exist between the film and the outside environment must be controlled in a satisfactory manner. Second, there is a theoretical wedge requirement on the outer window which must be tempered by what is achievable in practice. This wedge requirement arises because the lens aperture "looks" through at least two adjacent window ports for each exposure.

Because of this glass wedge tolerance, it would perhaps be unattractive to make the outer "skin" windows of a vacuum design for heat insulation. Consequently, it appears to us that adjacent thin outer windows should form the "skin" contour, and the thermal barrier should be provided by a single internal vacuum (or other) window in front of the lens, thus separating the two problems. This possible "solution" ignores air wedge effects, which should be analyzed in light of the previously mentioned tolerance apportionment. The suggested configuration should not be considered as a recommendation in the absence of a detailed analysis.

We hope the visit has helped you with this program. If we can be of further assistance, please let us know.

Best regards

Milt

mb

bc: JP/ELT ✓  
CMH  
PFF