

TO: P.M. Happ, Assistant General Manager Assessing Div.  
FROM: R. McDonald, Development Engineer, Assessing Division  
SUBJECT: CAPA Test Standard

I have reviewed CAPA specification 101, 201 and 204 for the certification of metal body parts and have the following comments.

(A) Specification 101 - Metal Parts

(i) Corrosion Testing

The Specification for the corrosion testing requirement appears to be adequate. The testing is similar to the tests we have previously conducted.

(ii) Material Testing

Although the requirement is fairly unspecific, the nature of steel composition is such that a fairly wide range of steels would be acceptable in the manufacture of steel body parts. The composition requirement is therefore considered to be acceptable. The thickness tolerance of  $-0$   $+20\%$  should not cause any safety or weight related problems.

(iii) Branding and Marking - Considered adequate.

(iv) Fitment Testing

While the aims of this portion of the test standard are laudable, I cannot see that this specification will produce parts that are 100% useable off the shelf. When a die is made for the manufacture of metal stampings, allowance is made, within the manufacturers tolerance, for die wear. Thus parts are initially made at one end of the tolerance band and the die wears, to eventually produce parts at the other end of the tolerance band. Given the lack of the manufacturers drawings which show datums, sizes and tolerances, I cannot see how an after-market manufacturer can produce a gauge fixture which produces acceptable parts in all cases. For the reasons previously mentioned, the use of a sample vehicle may not always give good results.

alternative to the standard in that these parts will always be dimensionally inferior to original equipment parts to some degree. I am merely pointing out that the fact that a standard exists does not mean that the parts will always be dimensionally acceptable.

(B) Specifications 201 & 204

These standards refer to flexible and rigid thermostat components respectively. The material composition requirement is not specific and is at the discretion of DTL. This may or may not be a problem depending on the familiarity of DTL with the materials applied to the OEM part as no reference is made to the OE part composition. The standard lists several acceptable grades of material. I do not fully understand the meaning of the last sentence in the first paragraph of section 6.1 of Specification 201 and do not see any other reference to OEM parts. This could become a problem where a material specification is quite specific for a reason known to the OE Manufacturer. This could be safety or performance related and merely assuming a common material be suitable for all applications may not be acceptable.

Overall though, these standards are relatively thorough and well intentioned although the degree of interaction with manufacturers and QC checking would have to be very high for the aims of the standards to be met.

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