

Kazuhide Ishii** Atsushi Miyazaki*** Susumu Satoh****

1 Introduction

Adoption of stainless steels for automotive exhaust system has been increased to cope with tighter emission regulations, an improvement in the engine performance

the operating temperature is high. Because the exhaust manifold is produced by assembling complex-shaped pipes and pressed parts, good formability is also required on its materials. Therefore, adoption of R429EX which provides good formability as shown in

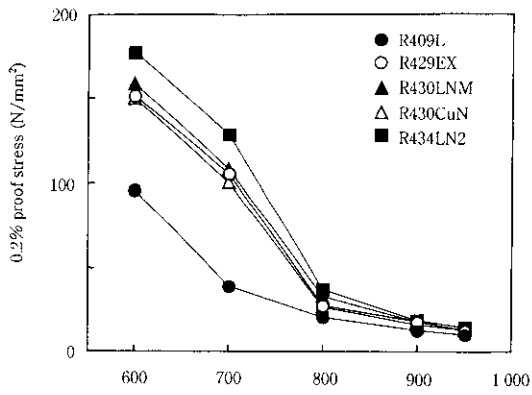


Fig. 1 0.2% proof stress of stainless steels for exhaust manifold at high temperatures

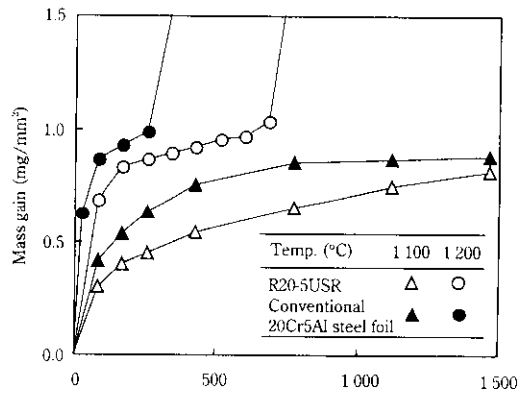


Fig. 3 Oxidation behavior of 50 μm thick R20-

15 [● R409L / ↑ / ▲]

Heat treatment (400°C × 5h in air)

Mo, are used. **Figure 4** shows the results of a corrosion test in synthetic exhaust gas condensate. The maximum corrosion depth decreased in proportion to Cr content

References

1) A. Miyazaki, M. Gunzi, and K. Yoshioka: *Kawasaki Steel*

are effective for improving the corrosion resistance in

2) H. Shimizu, M. Kouno, and K. Yoshioka: *Kawasaki Steel Gifu*