Fig. 1—Torque-twist curves for various aging treatments of 18Ni(200) maraging steel.

mum torque and intensifies with increasing strain until final fracture. The fracture is confined to the region of instability and has a ductile appearance, *i.e.*, flat and perpendicular to the axis of the specimen. Prolonged aging times at 968°F, to develop the reverted austenite levels noted above, more than doubled the strain hardening exponent when compared to those values noted earlier for conventionally aged material. This improvement in strain hardening was sufficient to eliminate nonuniform torsional deformation. This is reflected in the torque-twist curves shown in Fig. 1 where compared to conventional heat treatment, aging at 968°F for 45 and 98 h led to increased torsional ductility of approximately 20 pct and 60 pct, respectively. Again the fracture had a ductile appearance.

Microstructural details accompanying the increased strain hardening for material aged at 968°F for pro-

longed times have been detailed in Ref. 9. Here, it was shown that the uniform tensile strain rose rapidly from 1 to 2 pct when reverted austenite starts to form (material still in the underaged condition), to about 4 pct at peak yield stress. At peak yield stress about 20 pct reverted austenite is present. Further improvement in the uniform tensile strain to about 5 pct is realized as the material progresses into an overaged condition where the reverted austenite content has increased to over 30 pct. Aging times at 968°F used in the present study result in this overaged microstructure, so it is likely that most of the improvement in strain hardening results from the presence of substantial amounts of reverted austenite. Thus, it appears that for 18Ni(200) maraging steel reverted austenite can improve torsional as well as tensile properties. These observations may be important to torsion bar applications where response to pure shear loading is a prime acceptance criterion.

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1. N. H. Polakowski and S. Mostovoy: *Trans. ASM*, 1961, vol. 54, p. 567.
2. J. W. Spretnak: *Proc. Int. Conf. on Strength of Metals and Alloys, Suppl. Trans. Jap. Inst. Metals*, 1968, vol. 9, p. 305.
3. K. Tonaka and J. W. Spretnak: *Met. Trans.*, 1973, vol. 4, p. 443.
4. R. Chait: *J. Testing and Evaluation*, 1973, vol. 1, p. 435.
5. D. S. Fields and W. A. Backofen: *Proc. ASTM*, 1957, vol. 57, p. 1259.
6. E. B. Kula and C. F. Hickey: *Trans., TMS-AIME*, 1964, vol. 230, p. 1707.
7. H. J. Rack and D. Kalish: *Met. Trans.*, 1971, vol. 2, p. 3011.
8. G. R. Yoder: *Met. Trans.*, 1972, vol. 3, p. 1851.
9. C. A. Pampillo and H. W. Paxton: *Met. Trans.*, 1972, vol. 3, p. 2895.
10. R. L. Miller: *Trans. ASM*, 1964, vol. 57, p. 892.

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Structure, Strength and Fracture of Electrodeposited Nickel and Ni-Co Alloys.

by Anthony W. Thompson and Harry J. Saxton, pp.1599-1605.

Page 1602, Table II, Column 5

change 48.3 to 58.4

change 51.4 to 62.2

change 116.9 to 141.5

change 118.8 to 143.8