

Appendix D

Microstructures of the Bead-on-plate wet welds

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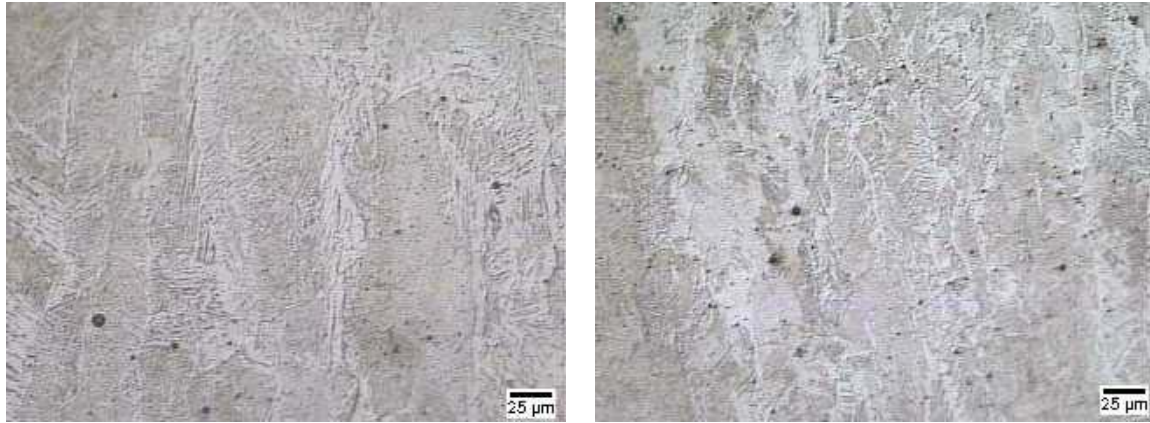
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D.1 Microstructures of the bead-on-plate wet welds

D.1.1 BOP welds on A36 Steel



Figure D.1. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on A36 steel at 50 m.



(a) E6013

(b) E7018



(c) E7024

Figure D.2. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on A36 steel at 100 m.



(a) E6013



(b) E7018



(c) E7024

Figure D.3. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on A36 steel at 50 m.



(a) E6013



(b) E7018



(c) E7024

Figure D.4. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on A36 steel at 100 m.

D.1.2 BOP welds on A572 Gr. 50 Steel



(a) E6013



(b) E7018



(c) E7024

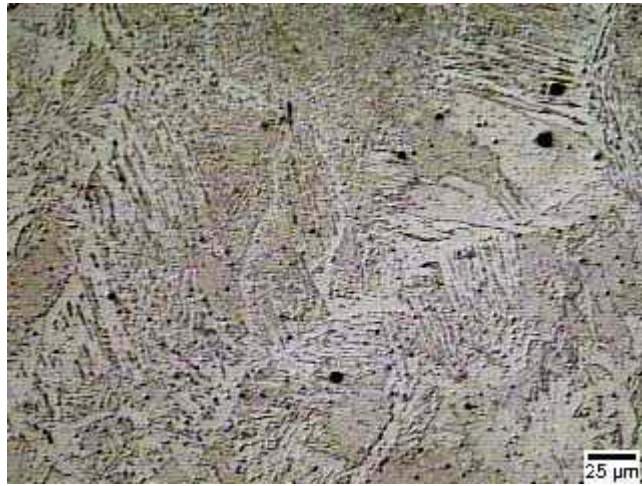
Figure D.5. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on A572 Gr. 50 steel at 50 m.



(a) E6013



(b) E7018



(c) E7024

Figure D.6. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on A572 Gr. 50 steel at 100 m.



(a) E6013



(b) E7018



(c) E7024

Figure D.7. Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on A572 Gr. 50 steel at 50 m.



(a) E6013



(b) E7018



(c) E7024

Figure D. 8 Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on A572 Gr. 50 steel at 100 m.

D.1.3 BOP welds on API 5L Gr. B

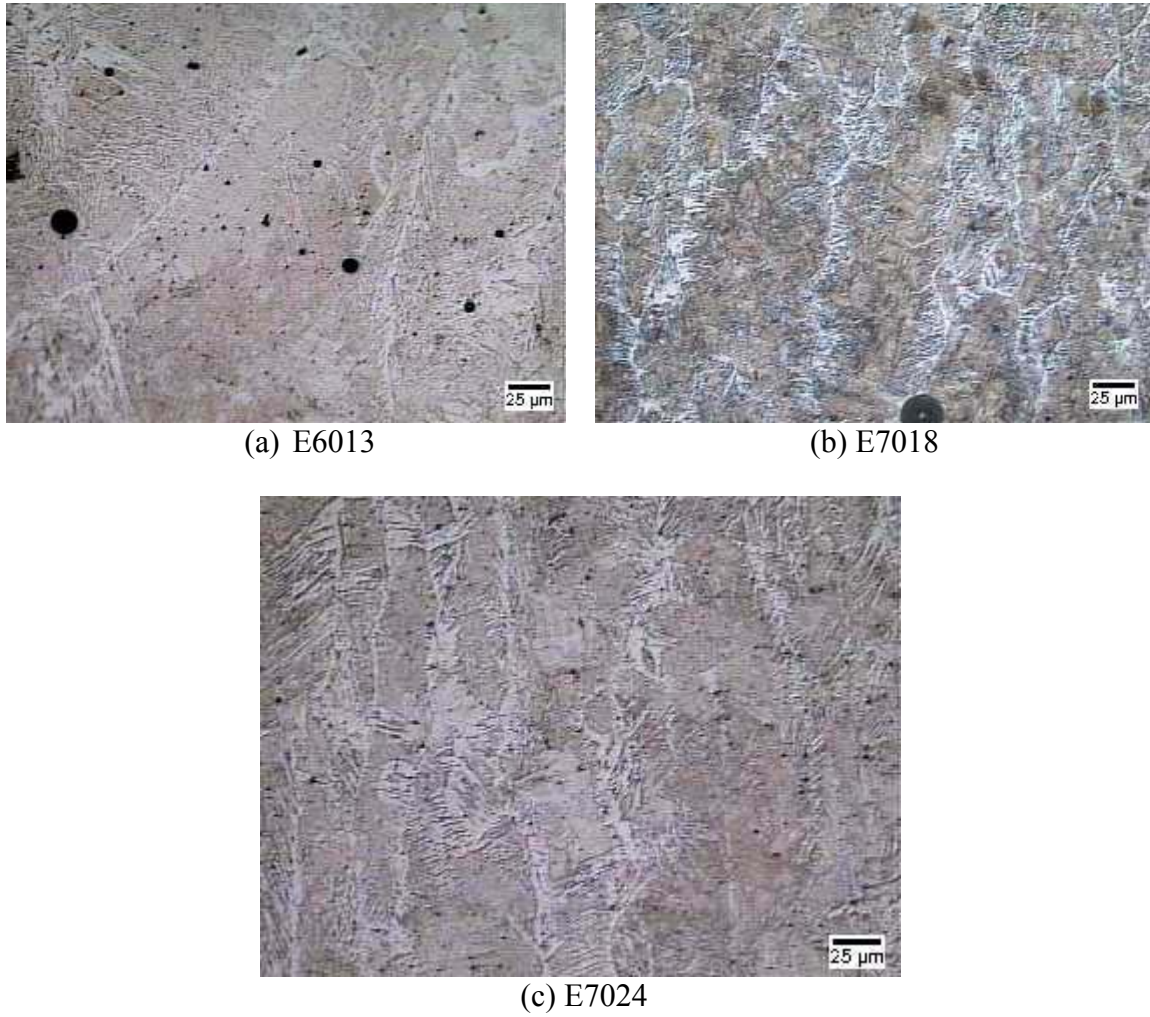
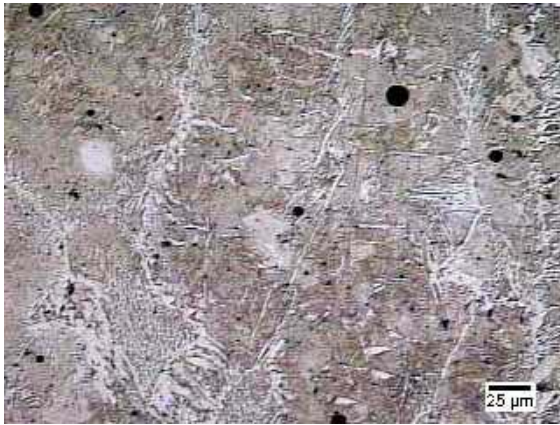


Figure D. 9 Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on API 5L Gr. B steel at 50 m.



(a) E6013



(b) E7018



(c) E7024

Figure D. 10 Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode positive on API 5L Gr. B steel at 100 m.



(a) E6013



(b) E7018



(c) E7024

Figure D. 11 Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on API 5L Gr. B steel at 50 m.



(a) E6013



(b) E7018



(c) E7024

Figure D. 12 Microstructures of the bead-on-plate wet welds deposited with the three electrode types using electrode negative on API 5L Gr. B steel at 100 m.