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Correction

Correction: Gargalis et al. A Comparative Investigation of Duplex and Super Duplex Stainless Steels Processed through Laser Powder Bed Fusion. *Metals* 2023, *13*, 1897

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In the original publication [1], there was a mistake in Table 6 as published. We erroneously reported the values included in Table 6, which should be deleted. Based on this change, the text referring to this table should be updated as follows:

1. A correction has been made in the second paragraph in Section 3.2. The change is as follows: "For duplex (2205) stainless steel, the optimum VED resulted in a relative density of 99.98% in the XY plane and 99.97% in the XZ plane. Similarly for super duplex (2507) stainless steel, the optimum VED resulted in a relative density of 99.95% in the XY plane and 99.96% in the XZ plane, respectively."

2. A correction has been made in Section 3.3.2. The original Table 7 has been changed to Table 6, and the citation has been changed accordingly. The correct sentences referring to this table and legend are as follows:

"In Table 6 the EDS results of ferrite and austenite are presented for the annealed/water-quenched DSS sample."

"Table 6. EDS analysis results of annealed and water-quenched DSS."

3. A correction has been made in Section 3.3.3. The original Table 8 has been changed to Table 7, and the citation has been changed accordingly. The corrected sentences and legend are as follows:

"Table 7 includes the EDS analysis of the characteristic microstructural constituents."

"The Ni-rich segregation region was also identified through EDS analysis (23.1 wt.% Ni) (Table 7)."

"Table 7. EDS analysis results of as-built SDSS."

4. A correction has been made in Section 3.3.4. The original Table 9 has been changed to Table 8, and the citation has been changed accordingly. The corrected sentences and legend are as follows:

"Table 8 displays the EDS analysis results of both ferrite and austenite. It was observed that austenite had approximately 5 wt.% higher nickel content compared to ferrite, while ferrite exhibited around 4 wt.% higher chromium content than austenite."

"Table 8. EDS analysis results of annealed and water-quenched SDSS."

5. The original Table 10 has been changed to Table 9, and the corresponding citations have also been changed. The corrected sentences and legend are as follows:

"The phase fractions and the grain size for all conditions are summarized in Table 9."

"Table 9. Summary of phase fraction and average grain size in all samples as measured by EBSD for DSS and SDSS alloys."

"The ECD average grain size of the as-built SDSS sample was slightly smaller than that of the as-built DSS sample (Table 9)."

"However, the SDSS sample subjected to annealing and quenching displayed marginally smaller ferrite grains compared to the DSS sample that underwent the same treatment (Table 9)."

6. A correction has been made in Section 4. We removed the cross-reference (Table 6), and the sentence has been changed as follows:

"In this case, the DSS and SDSS process parameters of optimum samples were almost identical in terms of laser power, scan speed, and hatch distance."

7. A correction has been made in Section 5. We changed the conclusions as follows:

"The current study demonstrated the successful fabrication of duplex and super duplex stainless steels processed via laser powder bed fusion with a nearly balanced austenite–ferrite arrangement after suitable heat treatment. In the as-built condition, both DSS and SDSS exhibited a predominantly ferritic microstructure (~100%) attributed to the high cooling rates suppressing austenite nucleation. In the as-built SDSS microstructure, a trace of grain boundary austenite was evident, along with micro-segregations and cellular grains due to the melt pool driving forces and rapid solidification. The ferrite grains in the as-built DSS and SDSS samples displayed a mixed crystallographic orientation. Solution annealing at 1100 °C for 1 h contributed to austenite recovery in both the DSS and SDSS microstructures. SDSS exhibited a higher degree of austenite in its annealed and quenched microstructure (~60% austenite volume fraction), facilitated by its higher nickel and nitrogen content compared to DSS (~30% austenite volume fraction). In the annealed and water-quenched microstructure of SDSS, the austenitic grains aligned predominantly along the <101> crystallographic direction, while in the annealed and quenched microstructure of DSS, they displayed a more varied orientation. The stress-relieved samples retained the same microstructure as the as-built samples, with no intermetallic phases or carbides/nitrides observed in either the heat-treated or as-built microstructures using the methods and tools employed in this study. Nanoindentation was utilized to obtain hardness and modulus values, providing insights into the nanomechanical response of the selected materials in all three conditions. This method effectively revealed phase regions with higher E values after annealing, indicating new phase formation. The annealed state exhibited greater contact depth (~181–189 nm) and plastic deformation due to austenite nucleation and growth, while the stress-relieved state showed a narrower range in the XY plane (DSS: ~181–185 nm and SDSS: ~178–182 nm), indicating a more robust deformation mechanism for both DSS and SDSS samples. The hardness distribution analysis quantified the effect of the stress relief protocol in all cases."

The authors confirm that the scientific conclusions are unaffected. This correction has been approved by the Academic Editor. The original publication has also been updated.

Reference

1. Gargalis, L.; Karavias, L.; Graff, J.S.; Diplas, S.; Koumoulos, E.P.; Karaxi, E.K. A Comparative Investigation of Duplex and Super Duplex Stainless Steels Processed through Laser Powder Bed Fusion. *Metals* **2023**, *13*, 1897. [CrossRef]