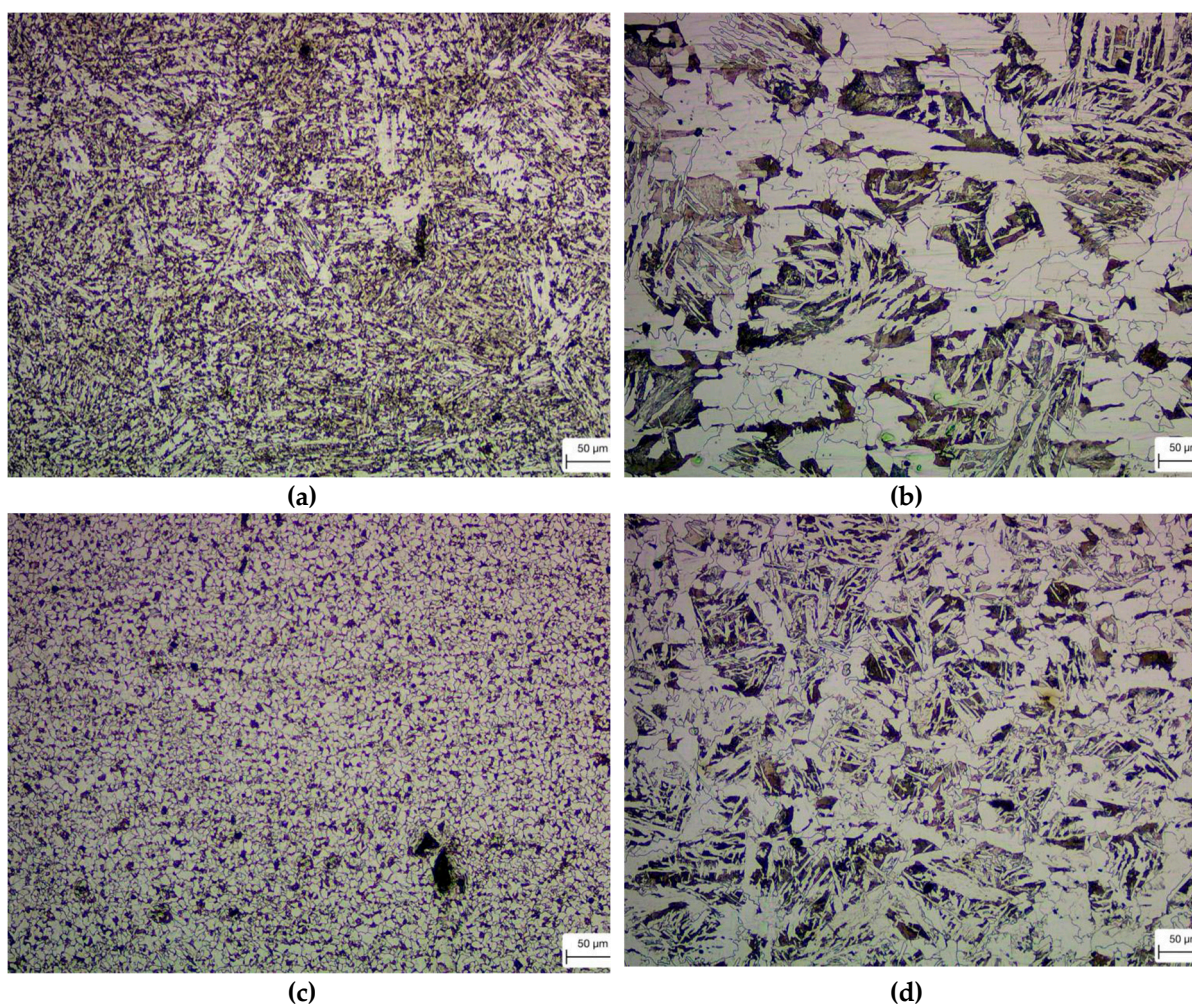
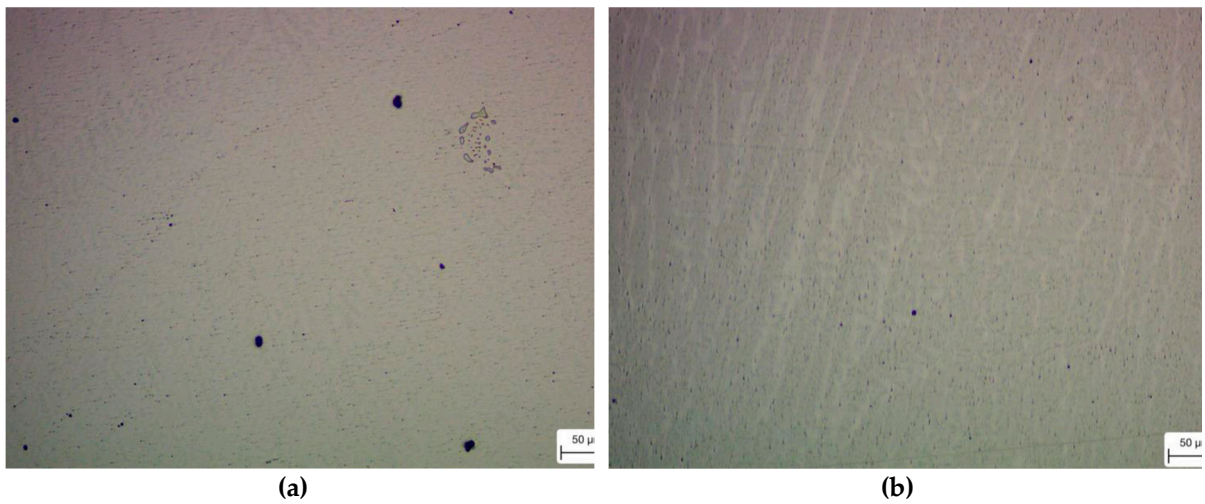


**Figure S1.** Weld penetration of hardfaced specimens: (a) S1, (b) S2, (c) H1 and (d) H1.

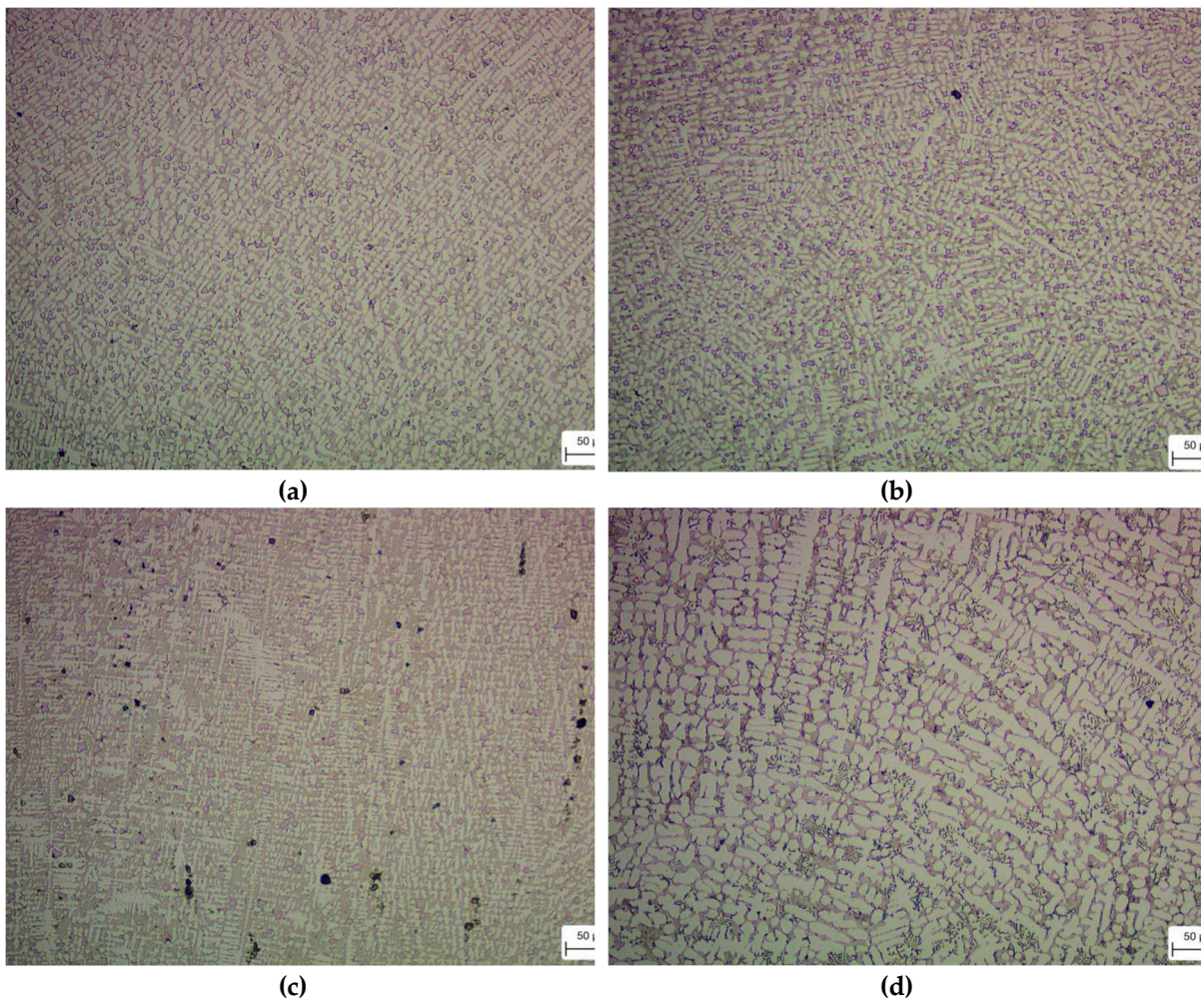


**Figure S2.** Microscopic result at HAZ of hardfaced welded specimens: (a) S1, (b) S2, (c) H1 and (d) H2.



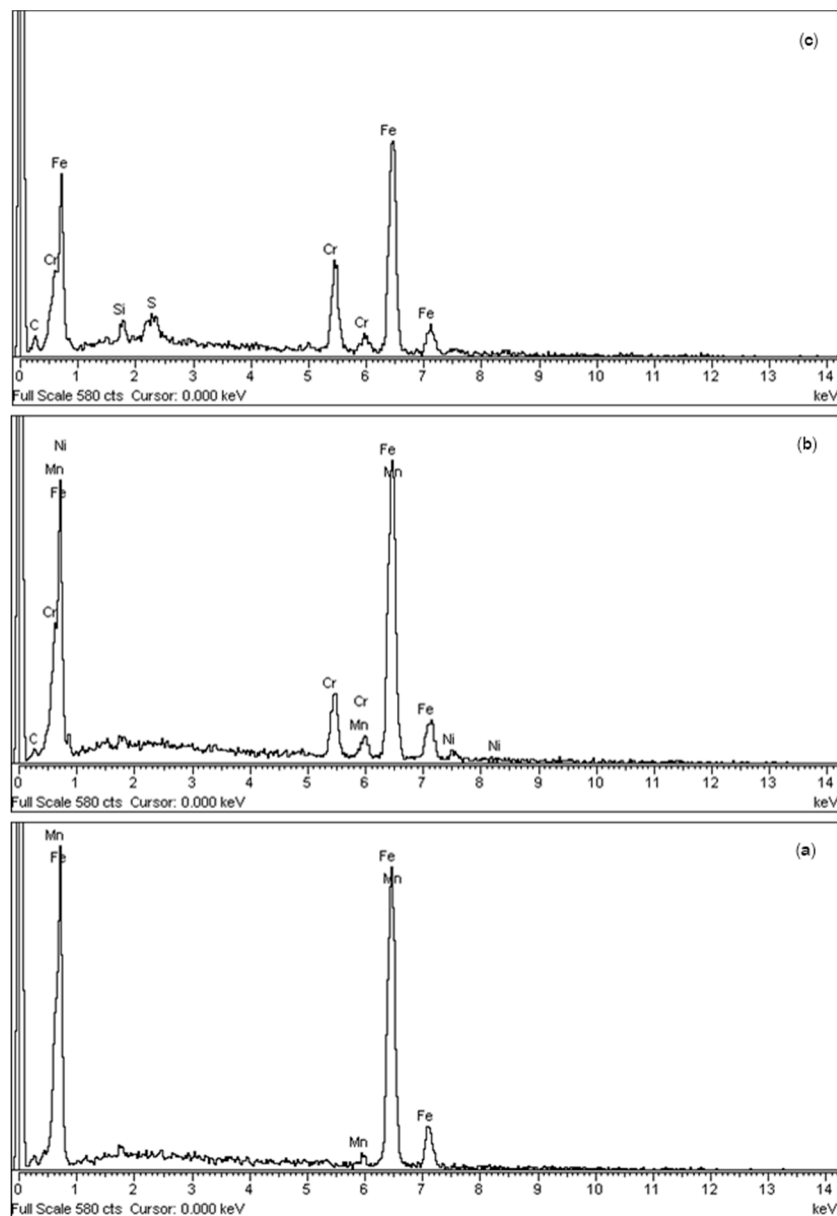


**Figure S3.** Microscopic result at buffer of hardfacing welded specimens: (a) H1 and (b) H2.



**Figure S4.** Microscopic result at hardfacing of hardfacing welded specimens: (a) S1, (b) S2, (c) H1 and (d) H2.

(c)



**Figure S5.** The EDS spectrum of welded specimen at (a) base, (b) buffer and (c) hardfacing weld.