High Temperature Materials and Processes
(HTMP)

Journal abbreviation: **High Temp. Mater. Proc.**

Get your **free access** to full-length papers by clicking the links below every article or to the whole 39 (2020) volume:

https://www.degruyter.com/journal/key/htmp/39/1/html

Table of contents 2020, Vol. 39

Research Articles

5. Tang, S., R. Wang, P. Liu, Q. Niu, G. Yang, W. Liu, et al. Preparation of WC-TiC-Ni3Al-CaF2 functionally graded self-lubricating tool material by microwave sintering and its cutting performance. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 45–53.

DOI: 10.1515/htmp-2020-0004

6. Chen, H., J. Chen, W. Wang, and H. Lin. Research on Electromagnetic Sensitivity Properties of Sodium Chloride during Microwave Heating. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 54–62.

DOI: 10.1515/htmp-2020-0048

7. Haitao, X., W. Dengke, and S. Kaihong. Effect of deformation temperature on mechanical properties and microstructure of TWIP steel for expansion tube. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 63–73.

DOI: 10.1515/htmp-2020-0020

8. Zeng, Q., J. Li, Y. Yu, and H. Zhu. Effect of Cooling Rate on Crystallization Behavior of CaO-SiO2-MgO-Cr2O3 Based Slag. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 74–80.
DOI: 10.1515/htmp-2020-0023

9. Zhu, H., L. Wang, J. Li, J. Zhao, and Y. Yu. Effects of metallurgical factors on reticular crack formations in Nb-bearing pipeline steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 81–87.

DOI: 10.1515/htmp-2020-0043

10. Zhou, F., D. Xu, M. Shi, and Y. Bi. Investigation on microstructure and its transformation mechanisms of B2O3-SiO2-Al2O3-CaO brazing flux system. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 88–95.

DOI: 10.1515/htmp-2020-0021

11. Qie, Y., Q. Lyu, C. Lan, and S. Zhang. Energy Conservation and CO2 Abatement Potential of a Gas-injection Blast Furnace. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 96–106.

DOI: 10.1515/htmp-2020-0031

12. Wang, H., K. Dong, and R. Zhu. Experimental validation of the reaction mechanism models of dechlorination and [Zn] reclaiming in the roasting steelmaking zinc-rich dust process. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 107–116.

DOI: 10.1515/htmp-2020-0007

13. Rajeswari, V., S. Paramashivan, S. Mohan, S. Albert, and R. M. Effect of substituting fine rutile of the flux with nano TiO2 on the improvement of mass transfer efficiency and the reduction of welding fumes in the stainless steel SMAW electrode. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 117–123.

DOI: 10.1515/htmp-2020-0030

14. Zhonggang, S., J. Shuwei, G. Yanhua, L. Yichen, C. Lili, and X. Fei. Microstructure evolution and mechanical properties of Hastelloy X alloy produced by Selective Laser Melting. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 124–135.

DOI: 10.1515/htmp-2020-0032

15. Wang, S., X. Xie, W. Xia, J. Cui, S. Zhang, and X. Du. Study on the structure activity relationship of the crystal MOF-5 synthesis, thermal stability and N2 adsorption property. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 171–177.

DOI: 10.1515/htmp-2020-0034

16. Zhao, T., Y. Sato, R. Xiao, T. Huang, and J. Zhang. Laser pressure welding of Al-Li alloy 2198: Effect of welding parameters on fusion zone characteristics associated with mechanical properties. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 146–156.

DOI: 10.1515/htmp-2020-0047

17. Uemura, S., S. Kamata, K. Yoshimi, and S. Tsurekawa. Microstructural evolution during high-temperature tensile creep at 1,500°C of a MoSiBTiC alloy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 136–145.

DOI: 10.1515/htmp-2020-0039

18. Zhang, K., K. Wu, O. Isayev, O. Hress, S. Yershov, V. Tsepelev, et al. Effects of different deoxidization methods on high-temperature physical properties of high-strength low-alloy steels. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 157–163.

DOI: 10.1515/htmp-2020-0050

19. Ida, S., N. Sekido, and K. Yoshimi. Solidification pathways and phase equilibria in the Mo–Ti–C ternary system. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 164-170.

DOI: 10.1515/htmp-2020-0053

20. Maddi, L., A. Ballal, D. Peshwe, and M. Mathew. Influence of normalizing and tempering temperatures on the creep properties of P92 steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 178–188.

DOI: 10.1515/htmp-2020-0033

21. Li, L. Effect of temperature on matrix multicracking evolution of C/SiC fiber-reinforced ceramic-matrix composites. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 189–199.

DOI: 10.1515/htmp-2020-0044

22. Lin, T., J. Zhou, C. Jing, Y. Liu, L. Zhang, and X. Meng. Improving mechanical properties of ZK60 magnesium alloy by cryogenic treatment before hot extrusion. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 200–208.

DOI: 10.1515/htmp-2020-0054

23. Li, L. Temperature-dependent proportional limit stress of SiC/SiC fiber-reinforced ceramic-matrix composites. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 209–218.

DOI: 10.1515/htmp-2020-0052

24. Deng, A., Y. Xia, J. Li, and D. Fan. Effect of 2CaO·SiO2 particles addition on dephosphorization behavior. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 219–227.

DOI: 10.1515/htmp-2020-0066

25. Liu, Y., Y. Tian, X. Wang, and Y. Gao. Influence of processing parameters on slab stickers during continuous casting. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 228–235.

DOI: 10.1515/htmp-2020-0065

26. Xie, Y., M. Song, F. Wang, Z. Xue, R. Xu, and W. Wang. Influence of Al deoxidation on the formation of acicular ferrite in steel containing La. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 236–246.

DOI: 10.1515/htmp-2020-0027

27. Liu, X., D. Qu, X. Luo, Y. Guo, and Y. Cui. The effects of β-Si3N4 on the formation and oxidation of β-SiAlON. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 247–255.

DOI: 10.1515/htmp-2020-0057

28. Kumar, R., V. Tewari, and S. Prakash. Sulphur and vanadium-induced high-temperature corrosion behaviour of different regions of SMAW weldment in ASTM SA 210 GrA1 boiler tube steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 256–260.

DOI: 10.1515/htmp-2020-0035

29. Akasofu, T., M. Kusakabe, S. Takeda, and S. Tamaki. Structural evidence of complex formation in liquid Pb–Te alloys. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 261–269.

DOI: 10.1515/htmp-2020-0064

30. Cao, Y., G. Li, Z. Jiang, Y. Dong, Z. Zhao, and C. Niu. Microstructure evolution of roll core during the preparation of composite roll by electroslag remelting cladding technology. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 270–280.

DOI: 10.1515/htmp-2020-0063

31. Wang, L., and L. Li. Improvement of toughness and hardness in BR1500HS steel by ultrafine martensite. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 281–290.

DOI: 10.1515/htmp-2020-0069

32. Zhao, Z., X. Li, L. Liu, M. Chen, X. Ma, J. Qi, et al. Influence mechanism of pulse frequency on the corrosion resistance of Cu–Zn binary alloy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 291–296.

DOI: 10.1515/htmp-2020-0045

33. Akasofu, T., M. Kusakabe, and S. Tamaki. An interpretation on the thermodynamic properties of liquid Pb–Te alloys. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 297–303.

DOI: https://doi.org/10.1515/htmp-2020-0068

34. Chen, X., F. Wang, C. Li, and J. Zhang. Dynamic continuous cooling transformation, microstructure and mechanical properties of medium-carbon carbide-free bainitic steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 304–316.

DOI: 10.1515/htmp-2020-0051

35. Kalyankar, V., and G. Chudasama. Influence of electrode tip diameter on metallurgical and mechanical aspects of spot welded duplex stainless steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 317–327.

DOI: 10.1515/htmp-2020-0055

36. Yan, J., Y. Xue, Z. Zhang, Y. Wu, and X. Zhao. Effect of multi-pass deformation on microstructure evolution of spark plasma sintered TC4 titanium alloy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 328–339.

DOI: 10.1515/htmp-2020-0074

37. Wang, M., S. Zeng, H. Zhang, M. Zhu, C. Lei, and B. Li. Corrosion behaviors of 316 stainless steel and Inconel 625 alloy in chloride molten salts for solar energy storage. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 340–350.

DOI: 10.1515/htmp-2020-0077

38. Liu, D., J. Diao, Y. Qiu, G. Wang, G. Li, and B. Xie. Determination of chromium valence state in the CaO–SiO2–FeO–MgO–CrOx system by X-ray photoelectron spectroscopy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 351–356.

DOI: 10.1515/htmp-2020-0036

39. Kuskova, N., O. Syzonenko, and A. Torpakov. Electric discharge method of synthesis of carbon and metal–carbon nanomaterials. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 357–367.

DOI: 10.1515/htmp-2020-0078

40. Wang, X., H. Jin, L. Zhu, R. Liu, and T. Song. Effect of high-frequency electromagnetic field on microstructure of mold flux. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 368–376.

DOI: 10.1515/htmp-2020-0037

41. Rongrong, Z., M. Qinyong, P. Qi, and M. Dongdong. Effect of hydrothermal coupling on energy evolution, damage, and microscopic characteristics of sandstone. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 377–389.

DOI: 10.1515/htmp-2020-0070

42. Nishi, T., N. Azuma, and H. Ohta. Effect of radiative heat loss on thermal diffusivity evaluated using normalized logarithmic method in laser flash technique. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 390–394.

DOI: 10.1515/htmp-2020-0079

43. Yang, C., and S. Li. Kinetics of iron removal from quartz under ultrasound-assisted leaching. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 395–404.

DOI: 10.1515/htmp-2020-0081

44. Li, W., Y. Sun, S. Wu, and X. Zang. Oxidizability characterization of slag system on the thermodynamic model of superalloy desulfurization. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 405–416.

DOI: 10.1515/htmp-2020-0084

45. Han, B., P. Du, Y. Zhang, H. Xing, G. Wei, and H. Wang. Influence of polyvinyl alcohol–glutaraldehyde on properties of thermal insulation pipe from blast furnace slag fiber. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 417–423.

DOI: 10.1515/htmp-2020-0085

46. Zhu, H., J. Zhao, J. Li, Q. Hu, and C. Peng. Evolution of nonmetallic inclusions in pipeline steel during LF and VD refining process. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 424–432.

DOI: 10.1515/htmp-2020-0088

47. Fu, P., L. Huang, and Z. Xing. Development and experimental research of a low-thermal asphalt material for grouting leakage blocking. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 433–446.

DOI: 10.1515/htmp-2020-0080

48. An, Z., J. Wang, Y. Liu, Y. Liu, X. She, J. Wang, et al. A downscaling cold model for solid flow behaviour in a top gas recycling-oxygen blast furnace. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 447–456.

DOI: 10.1515/htmp-2020-0083

49. Yan, J., Z. Zhang, J. Xu, Y. Wu, X. Zhao, Y. Xue, et al. Microstructure evolution of TC4 powder by spark plasma sintering after hot deformation. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 457–465.

DOI: 10.1515/htmp-2020-0002

50. Xianghai, M., L. Mengxing, W. Meng, W. Zhe, and L. Yungang. The effect of M (M = Ce, Zr, Ce–Zr) on rolling microstructure and mechanical properties of FH40. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 466–476.

DOI: 10.1515/htmp-2020-0082

51. Xin, W., Y. Deng, Y. Jiang, Y. Yuan, and P. Wang. Phase evolution and oxidation characteristics of the Nd–Fe–B and Ce–Fe–B magnet scrap powder during the roasting process. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 477–488.

DOI: 10.1515/htmp-2020-0025

52. Liu, S., J. Xu, and X. Fang. Assessment of impact mechanical behaviors of rock-like materials heated at 1,000°C. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 489–500.

DOI: 10.1515/htmp-2020-0040

53. Zhang, W., W. Hao, W. Xiong, G. Quan, J. Zhao, R. Shi, et al. Effects of solution and aging treatment parameters on the microstructure evolution of Ti–10V–2Fe–3Al alloy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 501–509.

DOI: 10.1515/htmp-2020-0060

54. Xi, X., S. Li, S. Yang, J. Li, and M. Zhao. Effect of adding yttrium on precipitation behaviors of inclusions in E690 ultra high strength offshore platform steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 510–519.

DOI: 10.1515/htmp-2020-0089

55. Ye, M., X. Xi, S. Yang, J. Li, and F. Wang. Dephosphorization of hot metal using rare earth oxide-containing slags. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 520–526.

DOI: 10.1515/htmp-2020-0090

56. Dai, B., J. Qiu, S. Ren, B. Su, X. Ding, D. Ju, et al. Kinetic analysis of CO2 gasification of biochar and anthracite based on integral isoconversional nonlinear method. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 527–538.

DOI: 10.1515/htmp-2020-0086

57. Wang, Y., P. Liu, G. Luo, Z. Liu, and P. Cao. Optimization of heat treatment of glass-ceramics made from blast furnace slag. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 539–544.

DOI: 10.1515/htmp-2020-0059

58. Duan, P., Z. Liu, B. Li, J. Li, and X. Tao. Study on microstructure and mechanical properties of P92 steel after high-temperature long-term aging at 650°C. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 545–555.

DOI: 10.1515/htmp-2020-0087

59. Lin, P., C. Wu, C. Peng, C. Tsai, and Y. Sato. Effects of rotational speed on the Al0.3CoCrCu0.3FeNi high-entropy alloy by friction stir welding. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 556–566.

DOI: 10.1515/htmp-2020-0046

60. Nanyang, D., W. Haijun, L. Haitao, and W. Jianjun. The investigation on the middle period dephosphorization in 70t converter. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 567–575.

DOI: 10.1515/htmp-2020-0094

61. Ma, M., H. Liu, and L. Chen. Effect of cerium on the initiation of pitting corrosion of 444-type heat-resistant ferritic stainless steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 576–587.

DOI: 10.1515/htmp-2020-0001

62. Zhang, B., and S. Zeng. Effects of quenching and partitioning (Q&P) technology on microstructure and mechanical properties of VC particulate reinforced wear-resistant alloy. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 588–594.

DOI: 10.1515/htmp-2020-0095

63. Chaopeng, C., Z. Xiangwei, L. Qiang, Z. Min, and Z. Guangping. Study on the erosion of Mo/ZrO2 alloys in glass melting process. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 595–598.

DOI: 10.1515/htmp-2020-0061

64. Du, W., C. Li, and C. Zhuang. Effect of Nb addition on the solidification structure of Fe–Mn–C–Al twin-induced plasticity steel. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 599–607.

DOI: 10.1515/htmp-2020-0056

65. Li, L. Damage accumulation and lifetime prediction of fiber-reinforced ceramic-matrix composites under thermomechanical fatigue loading. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 608–619.

DOI: 10.1515/htmp-2020-0092

66. Wang, L., M. Li, G. Zhang, and Z. Xue. Morphology evolution and quantitative analysis of β-MoO3 and α-MoO3. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 620–626.

DOI: 10.1515/htmp-2020-0093

67. Wu, X., and Y. Liu. Microstructure of metatitanic acid and its transformation to rutile titanium dioxide. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 627–632.

DOI: 10.1515/htmp-2020-0097

68. He, M., J. Qi, Z. Zheng, F. Shi, and Y. Lei. Numerical simulation of nickel-based alloys' welding transient stress using various cooling techniques. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 633–644.

DOI: 10.1515/htmp-2020-0067

69. Shinoda, K., S. Abe, K. Sugiyama, and Y. Waseda. The local structure around Ge atoms in Ge-doped magnetite thin films. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 645–662.

DOI: 10.1515/htmp-2020-0099

70. Wang, T., X. Gong, S. Ji, G. Xue, and Z. Lv. Friction stir lap welding thin aluminum alloy sheets. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 663–670.

DOI: 10.1515/htmp-2020-0024

Review Article

71. Wang, Z., Q. Liu, H. Liu, and S. Wei. A review of end-point carbon prediction for BOF steelmaking process. *High-Temperature Materials and Processes*, Vol. 39, 2020, pp. 653–662.

DOI: 10.1515/htmp-2020-0098

Table of contents 2021, Vol. 40

Get your **free access** to full-length papers by clicking the links below every article or to the whole 40 (2021) volume:

https://www.degruyter.com/journal/key/htmp/40/1/html

Research Articles

1. Song, X., D. Shi, P. Song, X. Han, Q. Wei, and C. Huang. Fused deposition modeling of poly(ether ether ketone) scaffolds. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 1–11.

DOI: 10.1515/htmp-2021-0009

2. Zhang, Y., T. Yuan, Y. Shao, and X. Wang. Investigation of the microstructure evolution in TP347HFG austenitic steel at 700°C and its characterization method. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 12–22.

DOI: 10.1515/htmp-2021-0013

3. Yang, W., J. Wang, L. Jiang, T. Wang, and Y. Pei. Hot deformation behavior and processing maps of 9Cr3W3Co oxide dispersion-strengthened steel. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 23–31.

DOI: 10.1515/htmp-2021-0010

4. Zhang, M., J. Li, Z. Xue, R. Zhu, Q. Mou, and H. Zhu. Evolution of physicochemical properties of quick lime at converter-smelting temperature. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 32–39.

DOI: 10.1515/htmp-2021-0008

5. Li, C., S. Tong, Y. Xue, and S. Wang. Influence of phase distribution of converter slag microzones on the occurrence of P. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 40–44.

DOI: 10.1515/htmp-2021-0012

6. Hong, K., Y. Wang, J. Zhou, C. Zhou, and L. Wang. Investigation on ultrasonic assisted friction stir welding of aluminum/steel dissimilar alloys. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 45–52.

DOI: 10.1515/htmp-2021-0011

7. Sun, L., and W. Yan. Analysis of oxide scale thickness and pores position of HCM12A steel in supercritical water. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 53–65.

DOI: 10.1515/htmp-2021-0016

8. Liu, S., Z. Yang, and F. Wang. Behavior of MnS inclusions during homogenization process in low-alloyed steel FAS3420H. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 66–76.

DOI: 10.1515/htmp-2021-0014

9. Tang, S., P. Liu, Z. Su, Y. Lei, Q. Liu, and D. Liu. Preparation and cutting performance of nano-scaled Al2O3-coated micro-textured cutting tool prepared by atomic layer deposition. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 77–86.

DOI: 10.1515/htmp-2021-0021

10. Jun, Z., L. Xin, L. Song, W. Kun, L. Qing, and L. Erhao. Prediction of hot metal temperature based on data mining. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 87–98.

DOI: 10.1515/htmp-2021-0020

11. Gao, G., X. Shi, Z. Zhu, and L. Chang. Effect of TiO2 content in slag on Ti content in molten steel. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 99–107.

DOI: 10.1515/htmp-2021-0015

12. Shen, L., J. Zhao, Y. Zhang, and G. Quan. Performance evaluation of titanium-based metal nitride coatings and die lifetime prediction in a cold extrusion process. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 108–120.

DOI: 10.1515/htmp-2021-0019

13. Zhang, Z., and M. Zhang. Effect of different drilling techniques on high-cycle fatigue behavior of nickel-based single-crystal superalloy with film cooling hole. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 121–130.

DOI: 10.1515/htmp-2020-0072

14. Jiang, J., R. Zhu, and S. Qiu. Effect of CO2 injection into blast furnace tuyeres on the pulverized coal combustion. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 131–140.

DOI: 10.1515/htmp-2021-0018

15. Kang, X., L. Qiao, H. Zhang, J. Wang, and P. Feng. Microstructure and properties of Co–Al porous intermetallics fabricated by thermal explosion reaction. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 141–150.

DOI: 10.1515/htmp-2020-0076

16. Yao, W., H. Lyimo, and J. Pang. Evolution regularity of temperature field of active heat insulation roadway considering thermal insulation spraying and grouting: A case study of Zhujidong Coal Mine, China. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 151–170.

DOI: 10.1515/htmp-2021-0023

17. Wang, Y., B. Long, C. Liu, and G. Lin. Evolution of reduction process from tungsten oxide to ultrafine tungsten powder via hydrogen. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 171–177.

DOI: 10.1515/htmp-2021-0017

18. Ren, W., L. Wang, Z. Xue, C. Li, H. Zhu, A. Huang, et al.. A thermodynamic assessment of precipitation, growth, and control of MnS inclusion in U75V heavy rail steel. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 178–192.

DOI: 10.1515/htmp-2021-0022

19. Zhang, G., G. Luo, P. Jia, Y. Wang, and Y. Chai. Effect of basicity on the reduction swelling properties of iron ore briquettes. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 193–203.

DOI: 10.1515/htmp-2021-0027

20. Nan, X., T. Hatakeyama, S. Ida, N. Sekido, and K. Yoshimi. Effect of Cr and Al alloying on the oxidation resistance of a Ti5Si3-incorporated MoSiBTiC alloy. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 204–213.

DOI: 10.1515/htmp-2021-0024

21. Wang, L., H. Hu, H. Yan, Y. Liu, Z. Wu, B. Narayanaswamy, et al. Microstructure and mechanical properties of 2060 Al–Li alloy welded by alternating current cold metal transfer with high-frequency pulse current. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 214–227.

DOI: 10.1515/htmp-2021-0026

22. Zheng, Y., W. Shen, L. Zhu, Z. Guo, Q. Wang, J. Feng, et al. Effects of composition and strain rate on hot ductility of Cr–Mo-alloy steel in the two-phase region. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 228–240.

DOI: 10.1515/htmp-2021-0025

23. Song, W., G. Luo, C. Sun, J. Zhang, and J. Zhu. Effect of K and Na on reduction swelling performance of oxidized roasted briquettes. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 241–252.

DOI: 10.1515/htmp-2020-0091

24. Xue, Y., P. Tian, C. Li, C. Zhou, D. Zhao, and S. Wang. Dephosphorization mechanism and phase change in the reduction of converter slag. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 253–264.

DOI: 10.1515/htmp-2020-0058

25. Menghani, J., A. Vyas, S. More, C. Paul, and A. Patnaik. Parametric investigation and optimization for CO2 laser cladding of AlFeCoCrNiCu powder on AISI 316. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 265–280.

DOI: 10.1515/htmp-2020-0075

26. Ghobadi, B., F. Kowsary, and F. Veysi. Optimization of heat transfer and pressure drop of the channel flow with baffle. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 286–299.

DOI: 10.1515/htmp-2021-0030

27. Huang, S., C. Li, Z. Li, Z. Zeng, Y. Zhai, J. Wang, et al. Quantitative analysis of microstructure and mechanical properties of Nb–V microalloyed high-strength seismic reinforcement with different Nb additions. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 300–309.

DOI: 10.1515/htmp-2021-0031

28. Tong, Y., J. Zhao, and G. Quan. Visualization of the damage evolution for Ti–3Al–2Mo–2Zr alloy during a uniaxial tensile process using a microvoids proliferation damage model. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 310–324.

DOI: 10.1515/htmp-2021-0028

29. Zhang, B., S. Ju, C. Liu, Y. Ma, H. Chen, and L. Fan. Research on high-temperature mechanical properties of wellhead and downhole tool steel in offshore multi-round thermal recovery. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 325–336.

DOI: 10.1515/htmp-2021-0032

30. Liu, L., G. Li, Y. Li, and L. Zhao. Dephosphorization behavior of reduced iron and the properties of high-P-containing slag. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 337–344.

DOI: 10.1515/htmp-2021-0033

31. Feng, C., R. Zhu, G. Wei, J. Dong, and K. Dong. Jet characteristics of CO2–O2 mixed injection using a dual-parameter oxygen lance nozzle for different smelting periods. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 345–360.

DOI: 10.1515/htmp-2021-0035

32. Li, P., C. Chen, C. Zhang, N. Xiao, H. Zhang, Y. Li, et al. Effects of ball milling on powder particle boundaries and properties of ODS copper. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 361–369.

DOI: 10.1515/htmp-2021-0036

33. Zhang, L., P. Xiao, Z. Liu, J. Zhou, and L. Zhu. Heat transfer behavior in ultrahigh-speed continuous casting mold. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 370–381.

DOI: 10.1515/htmp-2021-0042

34. Ma, T., X. Sun, Y. Ning, and W. Hao. Solidification microstructure characteristics of Cu–Pb alloy by ECP treatment. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 382–388.

DOI: 10.1515/htmp-2021-0039

35. Xu, Y., T. Zhang, L. Zheng, and A. Zou. Luminescence properties of Eu2+ and Sm3+ co-doped in KBaPO4. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 389–396.

DOI: 10.1515/htmp-2021-0046

36. Xiong, Z., Z. Lin, J. Qi, L. Sun, G. Wu, S. Kuang, et al. Research on high-temperature oxidation resistance, hot forming ability, and microstructure of Al–Si–Cu coating for 22MnB5 steel. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 397–409.

DOI: 10.1515/htmp-2021-0040

37. Li, Y., T. Ye, W. Zheng, S. Ma, and X. Zhao. The differential analysis for temperature distribution diagnostics of arc current-carrying region in sheet slanting tungsten electrode inert gas welding with the electrostatic probe. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 410–420.

DOI: 10.1515/htmp-2021-0037

38. Coetsee, T., and F. De Bruin. Reactions at the molten flux-weld pool interface in submerged arc welding. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 421–427.

DOI: 10.1515/htmp-2021-0051

39. Liu, B., C. Wang, and Y. Muhuo. The effect of liquid crystalline graphene oxide compared with non-liquid crystalline graphene oxide on the rheological properties of polyacrylonitrile solution. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 428–438.

DOI: 10.1515/htmp-2021-0048

40. Lan, F., C. Zhuang, C. Li, J. Chen, G. Yang, and H. Yao. Study on manganese volatilization behavior of Fe–Mn–C–Al twinning-induced plasticity steel. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 461–470.

DOI: 10.1515/htmp-2021-0049

41. Cui, X., Y. Xue, D. Zhao, S. Wang, and F. Guo. Physical modeling of bubble behaviors in molten steel under high pressure. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 471–484.

DOI: 10.1515/htmp-2021-0045

Rapid Communication

42. Góral, M., M. Pytel, T. Kubaszek, M. Drajewicz, W. Simka, and Ł. Nieużyła. The new concept of thermal barrier coatings with Pt + Pd/Zr/Hf-modified aluminide bond coat and ceramic layer formed by PS-PVD method. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 281–286.

DOI: 10.1515/htmp-2021-0029

Topical Issue on Science and Technology of Solar Energy

43. Nagaoka, A., Y. Shigeeda, K. Nishioka, T. Masuda, and K. Yoshino. Solution growth of chalcopyrite Cu(In1−xGax)Se2 single crystals for high open-circuit voltage photovoltaic device. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 439–445.

DOI: 10.1515/htmp-2021-0047

44. Ikeda, S. Copper-based kesterite thin films for photoelectrochemical water splitting. *High-Temperature Materials and Processes*, Vol. 40, 2021, pp. 446–460.

DOI: 10.1515/htmp-2021-0050