CLAIMS

What is claimed is:

1. A process of repairing a component (110), the process comprising:

identifying a void (255) in the component (110);

determining at least one approximate physical configuration of the void (255);

inserting a borescope into the component (110) in order to view the void (255);

providing a repair rod (270), wherein the repair rod (270) comprises an end portion for forming a repair plug (253) and a crimp (275) positioned between the end portion and a remainder of the repair rod (270), wherein the repair plug is configured to correspond to the at least one approximate physical configuration of the void (255);

inserting the repair rod (270) into the void (255);

confirming insertion of the repair rod (270) in the void (255);

separating the repair plug (253) from the remainder of the repair rod (270) at the crimp (275) to leave the repair plug (253) in the void (255); and

depositing a braze (252) paste over the repair plug (253) in the void (255).

2. The process of claim 1, wherein the component (110) is a hot gas path component (100) of a turbomachine.

3. The process of claim 2, wherein the void (255) is a backwall strike (250).

4. The process of claim 3, wherein the backwall strike (250) is formed by EDM of a hole (140) in the hot gas path component (100).

5. The process of claim 1, wherein determining the at least one approximate physical configuration of the void (255) includes determining at least an approximate depth and width of the void (255).

6. The process of claim 1, wherein identifying the void (255) includes identifying the void (255) using at least one of a borescope or CT scan.

7. The process of claim 1, wherein providing the repair rod (270) includes forming the repair rod (270).

8. The process of claim 7, wherein forming the repair rod (270) includes forming the crimp (275) in the repair rod (270), the crimp (275) defining a weakened region of the repair rod (270) that facilitates separation of the repair plug (253) from the remainder of the repair rod (270).

9. The process of claim 8, wherein providing the repair rod (270) includes additively manufacturing the repair rod (270) and the repair plug (253).

10. The process of claim 9, wherein additively manufacturing the repair rod (270) and the repair plug (253) includes forming the crimp (275) by additive manufacturing.

11. The process of claim 8, wherein inserting the repair rod (270) into the void (255) includes inserting the repair rod (270) to a bottom of the void (255) with the repair plug (253) fully disposed in the void (255).

12. The process of claim 11, wherein the crimp (275) is positioned at approximately a top of the void (255), and wherein separating the repair plug (253) from the remainder of the repair rod (270) at the crimp (275) leaves the repair plug (253) in the void (255) with a top of the repair plug (253) disposed at the top of the void (255).

13. The process of claim 12, wherein disposing the braze (252) includes disposing the braze (252) around the repair plug (253) disposed in the void (255).

14. The process of claim 13, wherein disposing the braze (252) includes performing a plurality of disposing braze (252) steps to build the braze (252) to the top of the void (255).

15. The process of claim 13, further comprising furnace heating the component (110) after disposing braze (252) around the repair plug (253).