

Abradable / Abrasive Tip Coatings Alert

**June 22, 2022**

**IP & Knowledge Management**

[Identification of constitutive laws' parameters by means of experimental tests on AlSi-PE abradable coating](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2Fscholar_url%3Furl%3Dhttps%3A%2F%2Fwww.sciencedirect.com%2Fscience%2Farticle%2Fpii%2FS0264127522002945%26hl%3Den%26sa%3DX%26d%3D13150713390822869400%26ei%3DQrRnYqrMCOiSy9YPp-OyiAE%26scisig%3DAAGBfm1Yjfx3PieaF4iVYTnr4TkXERC09w%26oi%3Dscholaralrt%26hist%3DmpoAcdUAAAAJ%3A2622092723119233116%3AAAGBfm0MmgMTgt-XBNFjhDN--A1kAUlrXw%26html%3D%26pos%3D0%26folt%3Dkw&data=05%7C01%7CJeff.Barr%40linde.com%7Ccde938ea709d4ec750ca08da2762f8e7%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C637865603282515207%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=XB1EN5gmiue3K299pkIogk%2FoOnofBchc9IdRfmoNUhc%3D&reserved=0)

B Chevrier, J Vincent, L Faure, S Philippon - Materials & Design, 2022

Abradable coatings are a part of dynamic seals used in aircraft engines to diminish   
inter-stage leakages by reducing rotor/stator clearances of the low and high-pressure   
compressors. However, interactions may occur during running between the rotating …

[Perspective: Challenges in the Aerospace Marketplace and Growth Opportunities for Thermal Spray](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2Fscholar_url%3Furl%3Dhttps%3A%2F%2Flink.springer.com%2Farticle%2F10.1007%2Fs11666-022-01351-x%26hl%3Den%26sa%3DX%26d%3D16525979469219095340%26ei%3D2j1jYuX5C5yO6rQP_qe3mAs%26scisig%3DAAGBfm14l9jU_BHgAzBwdBcu0CutrvV6Pw%26oi%3Dscholaralrt%26hist%3DmpoAcdUAAAAJ%3A2622092723119233116%3AAAGBfm0MmgMTgt-XBNFjhDN--A1kAUlrXw%26html%3D%26pos%3D1%26folt%3Dkw&data=05%7C01%7CJeff.Barr%40linde.com%7C34bcf4dbc29c469099ac08da24ba0b62%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C637862678970149149%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4pMQUkpiAnNaAfIxNNsMW8hfO%2BfZzvGENms9TSdYqIY%3D&reserved=0)

MR Dorfman, G Dwivedi, C Dambra, S Wilson - Journal of Thermal Spray Technology, 2022

The market needs for increased engine efficiency and environmentally friendly   
solutions remain the key drivers for the aerospace industry. These efficiency gains   
will be achieved by meeting the challenges of higher engine operating temperatures …

[Immersion corrosion behavior and electrochemical performance of laser cladded Ni60–CeO2 coatings in 5% NaCl solution](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2Fscholar_url%3Furl%3Dhttps%3A%2F%2Fwww.degruyter.com%2Fdocument%2Fdoi%2F10.1515%2Fcorrrev-2021-0096%2Fhtml%26hl%3Den%26sa%3DX%26d%3D15194008096536867431%26ei%3DG9VGYtvGG4jwyATW4LyoCg%26scisig%3DAAGBfm0jipBC28yxknvBkHJ0FZ_hXBkMKQ%26oi%3Dscholaralrt%26hist%3DmpoAcdUAAAAJ%3A2622092723119233116%3AAAGBfm0MmgMTgt-XBNFjhDN--A1kAUlrXw%26html%3D%26pos%3D1%26folt%3Dkw&data=04%7C01%7CJeff.Barr%40linde.com%7Caf751e5d997c485c3bee08da13cb271b%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C637844060511525680%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=IHgvWKrnFQUCuJvK1RfY81DFgz8kagsqVSZT5tQ7A14%3D&reserved=0)

Z Chao, K Dejun - Corrosion Reviews, 2022

Ni60 coatings with the CeO 2 mass fractions of 3%, 6%, and 9% were prepared on   
S355 steel. The microstructure and phases of obtained coatings were analyzed   
using an ultradepth of field microscope (UDFM) and X–ray diffraction (XRD) …

[Investigating the Tribological Behaviours of a Jet Engine's Abrasive Rotor and Stator Vane Contact](https://etheses.whiterose.ac.uk/30681/)

JA Garcia Panizo - 2022 - etheses.whiterose.ac.uk

36 days ago - … ends to a shroud; then using an **abradable** lining to limit gas … Whilst **abradable**  
based sealing systems where the … polyester) showed that the **coating**’s microstructure can be …

[Microstructure and Tribological Behavior of Alsi **Abradable**Seal **Coatings**By Atmospheric Plasma Spraying](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4096081)

C Hu, ZH Wen, JM Luo, SY Cui, YC Ma… - Available at SSRN … - papers.ssrn.com

55 days ago - … an **abradable** seal **coating**. It has been proved that AlSi alloy **abradable** seal  
**coating** … After machining, the surface roughness of AlSi **abradable** seal **coating** is low, and the …

[Self-lubricating epoxy-based composite **abradable**seal **coating**eliminating adhesive transfer via hierarchical design](https://www.sciencedirect.com/science/article/pii/S1005030221007222)

Y Tong, W Li, Q Shi, [L Chen](https://scholar.google.com/citations?user=734WlgwAAAAJ&hl=en&oi=sra), G Yang - Journal of Materials Science & …, 2022 - Elsevier

… the **blade** **tip** and the composite **abradable** seal **coating** in the compressor, to evaluate the  
**abradability** of the **coatings**… The test rig schematic and the samples for the **abradability** test are …

[Zirconia-based **abradable coatings**fabricated on single-crystal superalloy: Microstructure, residual stress and mechanical properties](https://www.sciencedirect.com/science/article/pii/S0925838822009288)

Y Cui, M Guo, C Wang, J Jiao, L Cheng - Journal of Alloys and Compounds, 2022 - Elsevier

… polyester **abradable** **coating** is much higher than that of DySZ thermal barrier **coating** due to  
its **coating** thickness and higher **coating** … between thermal shock life and **coating** **abradability**. …

[Modeling Deformation and Failure in AlSi-Polyester **Abradable**Sealcoating Material Using Microstructure-Based Finite Element Simulation](https://www.sciencedirect.com/science/article/pii/S0264127522004130)

[J Cheng](https://scholar.google.com/citations?user=18ExNgkAAAAJ&hl=en&oi=sra), [X Hu](https://scholar.google.com/citations?user=nqTiJ_YAAAAJ&hl=en&oi=sra), D Lancaster, X Sun, [W Joost](https://scholar.google.com/citations?user=tB71i34AAAAJ&hl=en&oi=sra) - Materials & Design, 2022 - Elsevier

… This work explicitly modeled the microstructure of the polyester-AlSi **abradable** **coating**  
material and captured its complicated mechanical behavior, demonstrating the model’s potential …

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