

Abradable / Abrasive Tip Coatings Alert

**June 28, 2023**

**IP & Knowledge Management**

[Non‐Planar Multiprocess Additive Manufacturing of Multifunctional Composites](https://scholar.google.com/scholar_url?url=https://onlinelibrary.wiley.com/doi/pdf/10.1002/admt.202300399&hl=en&sa=X&d=8421599937345390362&ei=9ZaKZO_0LuSVy9YPnbipoAQ&scisig=AGlGAw9_okD9Mbtbf-EWLNi6WU0N&oi=scholaralrt&html=&pos=3&folt=kw)

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JF Chauvette, IL Hia, J Pierre, G Chenier, RD Farahani… - Advanced Materials …, 2023

… **abradable** **seal** **coating**, is applied on gas turbine engines casing to increase   
engine efficiency and is mechanically abraded by the rotor blades during engine   
startup. **Abradable** … large-scale DIW of an **abradable** thermosetting **coating** with …

[Thermal Spray **Coating** Technology–A Review](https://scholar.google.com/scholar_url?url=https://www.ijfmr.com/papers/2023/3/2990.pdf&hl=en&sa=X&d=12414828505476855894&ei=Dq5lZPXzDsOay9YP5YeuiAk&scisig=AGlGAw-P6IT905cTbGAcjxVPLJ9y&oi=scholaralrt&html=&pos=5&folt=kw)

M Saroya, N Singh, A Singh - IJFMR-International Journal For Multidisciplinary …

… **Abradable** **coating** is use to reduce the gap between the rotating blade tips and   
the compressor housing of aircraft compressor. A gap that becomes too large may   
result in poor efficiency, thus high fuel consumption. In this case, AlSi-polyester and …

[Composition-structure-property synergistically tailoring of Zr-Y-Ta-O oxides as candidate **abradable seal** coatings materials](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S095522192300331X&hl=en&sa=X&d=13330675905754964383&ei=sgJHZLLcJ8mN6rQPxe6VwA0&scisig=AJ9-iYuh0Zl9j2ruCRv3SypcmTgR&oi=scholaralrt&html=&pos=6&folt=kw)

K Luo, L Chen, B Li, T Lu, J Feng - Journal of the European Ceramic Society, 2023

… Al 2 O 3 is produced during high-temperature applications of bond **coat** (NiCoCrAlY   
and MCrAlY with TECs of 13-16 ×10 -6 K -1 , 1200 C), … between Al 2 O 3 and bond   
**coat** (4.0~8.0×10 8 Pa) caused by TECs mismatches between Al 2 O 3 and bond …

[Effect of thermal expansion on the high temperature wear resistance of Ni-20% Cr detonation spray **coating** on IN718 substrate](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%2FS0257897223002657%26hl%3Den%26sa%3DX%26d%3D1546099578261164567%26ei%3DGXQ2ZPxEh6zIBLforLAM%26scisig%3DAJ9-iYu26TWq4H06JaDyYL0jjvrn%26oi%3Dscholaralrt%26html%3D%26pos%3D0%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7Cd5013f3f1adf45eddb0b08db3b34ec6a%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638168870716592121%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=opWt2uPdUGhZeUVTuq%2Fz5Oz5fxcB4ht8SR%2FAtZagmik%3D&reserved=0)

N Purushotham, NL Parthasarathi, PS Babu… - Surface and Coatings …, 2023

… The as-deposited **coating** surface was polished with SiC grit sheets before the   
frictional test, obtaining uniform surface condition (Sa = … This includes blade tips   
that scrape against **abrasive** **seals** and foil bearings. At the same time, the bottom …

[Atmospheric plasma spraying of ytterbium disilicate for **abradable** and environmental barrier coatings: A story of processing-microstructure relationships](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%2FS0272884223010015%26hl%3Den%26sa%3DX%26d%3D2126715387686262561%26ei%3DrLs0ZOUf1pTL1g_l2p_QDg%26scisig%3DAJ9-iYsBJy6s4W4O0IErSOMzPBzj%26oi%3Dscholaralrt%26html%3D%26pos%3D0%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7Cb18053f4bbf44c570ed608db3a2e68f2%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638167743403552334%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=pxsOlDpVG1Xfpc7lf8dR%2BWs92eQkz89Eap%2BaQEfAcWc%3D&reserved=0)

A Lynam, AR Romero, F Xu, GJ Brewster, G Pattinson… - Ceramics International, 2023

… for high volume **coating** production. Despite this, the requirements of an   
**abradable** **coating** are vastly different to that of an EBC. To prevent the ingress of   
steam, EBCs must provide a gas-tight **seal** over the CMC substrate, whereas …

[Effect of Ti3SiC2 mass fraction on microstructure and tribological performance of laser cladded NiCr **coating** at high temperature](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2Fscholar_url%3Furl%3Dhttps%3A%2F%2Fwww.emerald.com%2Finsight%2Fcontent%2Fdoi%2F10.1108%2FILT-01-2023-0004%2Ffull%2Fhtml%26hl%3Den%26sa%3DX%26d%3D13571628416340055821%26ei%3DrLs0ZOUf1pTL1g_l2p_QDg%26scisig%3DAJ9-iYsoSjVwI7eZpaYAaeCTcDLw%26oi%3Dscholaralrt%26html%3D%26pos%3D1%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7Cb18053f4bbf44c570ed608db3a2e68f2%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638167743403708533%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=hg6Tbv1tmT8p6AcSJVdqUf0ANrqn2jjXCFHC3AK88lM%3D&reserved=0)

S Chengwen, L Wei, K Dejun - Industrial Lubrication and Tribology, 2023

… It was indicated the wear mechanism was adhesive wear, **abrasive** wear and   
oxidation wear. There were certain amount of spalling craters and wear debris on   
the worn track of NiCr-15%Ti 3 SiC 2 **coating**, and the **coating** suffered **abrasive** wear …

[Contact fatigue properties of NiCrCr3C2 and AlSi coatings for **sealing** performance of the Wankel engine](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%2FS0142112323001561%26hl%3Den%26sa%3DX%26d%3D9321520028889732053%26ei%3DIWErZN-yH7yUy9YP2JiDkAg%26scisig%3DAJ9-iYuza0PQE1LkZkWPfzcn1EMO%26oi%3Dscholaralrt%26html%3D%26pos%3D0%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7Ccfab0482e82040d27b0a08db349b2703%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638161613369223349%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=B4JeBobvAjdVMJWhTBHnBj6dPqMXSVi3TuGk160871Y%3D&reserved=0)

K Wang, G He, Y Chai, L Wang - International Journal of Fatigue, 2023

… **abrasive** wear and adhesive wear; therefore, large numbers of **coating** spalling   
and scratches were found on the surface. At high stress levels, the pits on the   
**coating** … The material loss mechanism of the **coating** was mainly **abrasive** particles …

[Effect of high temperature exposure on microstructure, mechanical and tribological properties of cold sprayed NiCoCrAlTaY coatings](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%2FS0257897223002414%26hl%3Den%26sa%3DX%26d%3D1121158048061728193%26ei%3DIWErZN-yH7yUy9YP2JiDkAg%26scisig%3DAJ9-iYtTE3Zyy42a2zdyIt7z5h1T%26oi%3Dscholaralrt%26html%3D%26pos%3D2%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7Ccfab0482e82040d27b0a08db349b2703%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638161613369536812%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=dwqu0kfEbvy%2F2IH9%2FssrvO0IHevc80%2F8EX1N1HdOkN0%3D&reserved=0)

J Huang, W Sun, X Chu, H Lan, Y Xie, D Ye, R Huang - Surface and Coatings …, 2023

… The wearable **sealing** **coating** is mainly used to control the gap between the aero-engine   
casing and the **blade** **tip**, to improve the air tightness … microstructure and   
tribological properties of cold sprayed MCrAlY **coating** is of great significance for its …

[TRIBOLOGICAL CHARACTERISTICS OF TANTALUM-OXIDE **COATING** FABRICATED ON PRE-TREATED 2024 AL ALLOYS](https://scholar.google.com/scholar_url?url=https://asmedigitalcollection.asme.org/tribology/article/doi/10.1115/1.4062721/1163781&hl=en&sa=X&d=17111470731789676103&ei=2aWHZJaVOOTUsQLSxJegAw&scisig=AGlGAw_8vW7NA8x5H9NLReeEZozH&oi=scholaralrt&html=&pos=8&folt=kw)

S Albayrak, C Gul, H Çinici, Ö Sahin - Journal of Tribology, 2023

… In this study, 2024 aluminum alloy samples with different surface treatments were   
**coated** with amorphous Ta2O5 using the RF spraying … and supporting **abrasive**   
wear [47]. In addition, narrower and more superficial wear was observed in the …

[Revealing the role of **sealing** treatment on the electrochemical corrosion properties of HVOF-sprayed WC-20Cr3C2-7Ni/MWCNTs **coating**](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S2238785423012334&hl=en&sa=X&d=10890394944957930288&ei=Xch-ZLehA4HuygS37r6oCA&scisig=AGlGAw_WbMYhp6lXfeK904IOS_me&oi=scholaralrt&html=&pos=1&folt=kw)

J Qin, Z Wei, Z Wei, K Wang, S Hong - Journal of Materials Research and Technology, 2023

… **coating** (US **coating**), conventional impregnation **sealed** **coating** … AP **coating**),   
vacuum impregnation **sealed** **coating** with aluminum phosphate (VI-AP **coating**),   
conventional impregnation **sealed** **coating** with silicone resin (CI-SR **coating**) and …

[Deep Learning Neural Networks for Forecasting the **Abrasive** Wear in Machining Tools for Cryogenic Treatment by Process Parameter Optimization](https://scholar.google.com/scholar_url?url=https://link.springer.com/chapter/10.1007/978-981-19-9638-2_2&hl=en&sa=X&d=11606967266406569732&ei=lNN5ZJfQJO3AsQKExJC4Cg&scisig=AGlGAw-Rcr97zdooqHvUusmChvBY&oi=scholaralrt&html=&pos=2&folt=kw)

K Sujatha, NPG Bhavani, N Ethiraj, S Bhuvaneswari… - … Technology for Competitive …, 2023

… Every year, the industries are found to lose a billion of rupees due to **abrasive**   
wear and tear and subsequently … **coating** to the base metal. To overcome these,   
hard-facing and cryogenic treatment processes are suggested to improve the wear …

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Contact [Jeff Barr](mailto:jeff_barr@praxair.com) if you have any questions or have trouble finding any documents.

[Study of the microstructure and tribological property of CoNiAlB **coating** with FeB phase reinforced](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/abs/pii/S0042207X23004426&hl=en&sa=X&d=16486865988782624411&ei=dP93ZLKAOYvwyAS0sqboDg&scisig=AGlGAw-IEYU-nlA1Qj0vmR-LG0nN&oi=scholaralrt&html=&pos=4&folt=kw)

C Liu, C Zhang, X Cui, Z Cheng, B Cao, W Su, G Jin… - Vacuum, 2023

… microstructure led to the improvement of the **coating**: The microhardness   
improved from 380 Hv … from only oxidation wear to only **abrasive** wear, exhibited   
excellent tribological property. … **coating** by laser cladding on 38CrMoAl steel …

[Study of Wear and Corrosion Resistance of Cold Sprayed TC4 **Coating** on the Surface of Mg-Li Alloy](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2079-6412/13/6/988&hl=en&sa=X&d=6849945867655955935&ei=M6t1ZM2jNIb8mgHbqbWgBg&scisig=AGlGAw_e7kc3Vbx6kfYSVCxD2F3F&oi=scholaralrt&html=&pos=0&folt=kw)

Y Bao, B Fu, Y Jiao, T Dong, J Li, G Li - Coatings, 2023

… **Abrasive** wear was the major wear mechanism of the TC4 alloy **coating**. In   
electrochemical tests, the corrosion current density of the TC4 alloy **coating** (… the   
corrosion potential of the TC4 alloy **coating** was higher, which indicates that the …

[Influences of Powder Ratios on the Mechanical Properties of In-Situ Synthetic NbC Coatings](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S2352492823010097&hl=en&sa=X&d=13740939946659348896&ei=M6t1ZM2jNIb8mgHbqbWgBg&scisig=AGlGAw9rIlxSH8UyDwN-MC4F6dsE&oi=scholaralrt&html=&pos=1&folt=kw)

G Lian, K Yue, C Chen, L Huang, M Zheng - Materials Today Communications, 2023

… The main wear mechanism of the **coating** was **abrasive** wear, accompanied by a   
small amount of adhesive wear. … The wear resistance of the **coating** is best when   
the ratio of Nb to B 4 C is 1:1.3. The main wear mechanism of the **coating** is **abrasive** …

[Abrasion resistance of a Nb3Sn magnetron-sputtered **coating** on copper substrates for radio frequency superconducting cavities](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0264127523004458&hl=en&sa=X&d=1250709375528244928&ei=M6t1ZM2jNIb8mgHbqbWgBg&scisig=AGlGAw--20vU76XS9n3A1J2f9qZq&oi=scholaralrt&html=&pos=4&folt=kw)

S Aliasghari, E Avcu, P Skeldon, R Valizadeh, B Mingo - Materials & Design, 2023

… **Abrasive** wear during scratch testing in ductile metals is generally recognized to   
involve ploughing, … , **abrasive** wear of brittle materials generally occurs by fracture   
mechanisms [45], [46], [47]. In the present brittle **coating**/soft substrate system, both …

[Microstructure, Mechanical, and Wear Characteristics of Hard-**Coated** C45 Mild Steel for Spur Gear Applications](https://scholar.google.com/scholar_url?url=https://link.springer.com/article/10.1007/s11665-023-08287-5&hl=en&sa=X&d=8302328681884603771&ei=EgJxZPuiJMmUy9YP9uCQuAM&scisig=AGlGAw8kYmxKPEUKkCKMQalgGlxy&oi=scholaralrt&html=&pos=2&folt=kw)

MK Shoba, KM Mohan, K Parthiban, K Pazhanivel… - Journal of Materials …, 2023

… **coated** materials exhibited better hardness, tensile strength, and wear resistance,   
and among these substrates **coated** with WC-Co-Cr possessed the highest **abrasive** …   
the Cr 3 C 2 -NiCr **coating**, showing the least **abrasive** wear resistance than the WC-Co-Cr …

[Effect of ceramic particles on microstructure and properties of CoCrMoNbTi high-entropy alloy **coating** fabricated by laser cladding](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0030402623004837&hl=en&sa=X&d=10463156275470380828&ei=YrVuZK3MOI6aygTD8JXYDg&scisig=AGlGAw_X7RZUqE6xzoh7o5YUvt_S&oi=scholaralrt&html=&pos=0&folt=kw)

X Zhou, L He, M Zhang, P Wang - Optik, 2023

… the **coating** such as porosity, which affects the relative density and forming quality   
of the **coating**. Fig. 3a2 shows that the microstructure of the Pure-HEA **coating** … The   
**coating** shows significant **abrasive** wear characteristics. The reason could be the …

[Study on Internal Flow Characteristics and **Abrasive** Wear of Pelton Turbine in Sand Laden Water](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2227-9717/11/5/1570&hl=en&sa=X&d=11766364323019598309&ei=YrVuZK3MOI6aygTD8JXYDg&scisig=AGlGAw8HlbpcWNvLyBqOdWyPLMx3&oi=scholaralrt&html=&pos=7&folt=kw)

Y Huang, F Deng, H Deng, Q Qing, M Qin, J Liu, Z Yu… - Processes, 2023

… **abrasive** wear of the nozzle opening is more severe than that of the needle. The   
predicted results are consistent with the actual conditions at the site of the power   
station. This study provides a technical method for the prediction of **abrasive** … a …

[Microstructure and wear resistance of AlCoCrFeNiCuSnX high-entropy alloy coatings by plasma cladding](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0042207X23003731&hl=en&sa=X&d=5079411977389195511&ei=FpprZKGUKb-Ny9YP4pGK4Ao&scisig=AGlGAw9VFA9HKFdc9RuPEBpD6u8S&oi=scholaralrt&html=&pos=9&folt=kw)

Y Xie, X Wen, J Yan, B Huang, J Zhuang - Vacuum, 2023

… **coating** is dominated by adhesive wear, and with slight **abrasive** wear. Sn 0.03   
coatings, in addition to obvious delamination, also show a large number of grooves,   
indicating that they are dominated by adhesive wear and **abrasive** … mechanism is …

[Wear Mechanisms in Press Hardening: An Analysis through Comparison of Tribological Tests and Industrial Tools](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2075-4442/11/5/222&hl=en&sa=X&d=18187468205136828782&ei=HtRnZKeqJIuGmgHX3JsY&scisig=AGlGAw_EoiF3oyt8T7Li-4wdZXIZ&oi=scholaralrt&html=&pos=2&folt=kw)

J Pujante, E Garcia-Llamas, G Ramírez, N Cuadrado… - Lubricants, 2023

… First of all, **abrasive** wear and surface plastic deformation can be observed on the   
originally polished tool steel (Figure 8a). … of **abrasive** wear is reasonable,   
considering that the mechanical analysis of the **coating** presented in Section 3.1 …

[Effect of Microstructure on CMAS Interaction of Axial Suspension and Solution Precursor Plasma Sprayed Thermal Barrier Coatings—YSZ & GZ](https://scholar.google.com/scholar_url?url=https://dl.asminternational.org/itsc/proceedings/ITSC2023/84536/653/26373&hl=en&sa=X&d=14571405216321119051&ei=HtRnZKeqJIuGmgHX3JsY&scisig=AGlGAw-rUs0FymtENDQQuLFi7I6I&oi=scholaralrt&html=&pos=5&folt=kw)

S Lokachari, K Leng, A Rincon Romero, T Hussain - ITSC 2023, 2023

… To improve the CMAS resistance, we used two different **coating** systems to **seal**   
any open porosities present on the top surface of the **coating** while preserving the   
**coating's** strain-tolerance ability. In this current investigation, a doublelayer and a …

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[Check for updates Mechanical, Tribological, and Anticorrosion Properties of the **Coating** Produced by Magnetron Sputtering of a Ni-Cr-B4C Composite Target](https://scholar.google.com/scholar_url?url=https://books.google.com/books%3Fhl%3Den%26lr%3Dlang_en%26id%3Dk3q-EAAAQBAJ%26oi%3Dfnd%26pg%3DPA206%26dq%3Dcoat*%2Babradable%2BOR%2Babrasive%2BOR%2B%2522blade%2Btip%2522%2BOR%2Bseal%26ots%3D68RPjAL9yA%26sig%3DhOXMhoTfZUkWqh1eT0F08-IMu-0&hl=en&sa=X&d=16339439104883705477&ei=Dq5lZPXzDsOay9YP5YeuiAk&scisig=AGlGAw8IFBx2zQra4UeZ-v6XEFV_&oi=scholaralrt&html=&pos=1&folt=kw)

VV Sirota, SV Zaitsev, DS Prokhorenkov - Innovations and Technologies in …, 2023

… that the Ni-B-Cr-C **coating** had good wear resistance. The mechanical wear of the   
composite **coating** is dominated by **abrasive**, oxidative and adhesive wear in the   
atmospheric environment. The coefficient of friction of the composite **coating** is in the …

[Mechanical, Tribological, and Anticorrosion Properties of the **Coating** Produced by Magnetron Sputtering of a Ni–Cr–B4C Composite Target](https://scholar.google.com/scholar_url?url=https://link.springer.com/chapter/10.1007/978-3-031-20459-3_26&hl=en&sa=X&d=3424326396193355825&ei=rh9jZJeBNK6I6rQP2JOqsAE&scisig=AGlGAw8CKfMylKP94mIGvwlOvBQ1&oi=scholaralrt&html=&pos=1&folt=kw)

VV Sirota, SV Zaitsev, DS Prokhorenkov… - … and Technologies in …, 2023

… that the Ni–B–Cr–C **coating** had good wear resistance. The mechanical wear of   
the composite **coating** is dominated by **abrasive**, oxidative and adhesive wear in the   
atmospheric environment. The coefficient of friction of the composite **coating** is in the …

[Effect of NiAl Bond Layer on the Wear Resistance of an Austenitic Stainless Steel **Coating** Obtained by Arc Spray Process](https://scholar.google.com/scholar_url?url=https://www.sae.org/publications/technical-papers/content/05-16-04-0022/&hl=en&sa=X&d=9522146215593326018&ei=rh9jZJeBNK6I6rQP2JOqsAE&scisig=AGlGAw8qHmLQJNFr763s-aLpcIo3&oi=scholaralrt&html=&pos=8&folt=kw)

A Sadki, R Younes, MA Bradai, N Mesrati - SAE International Journal of Materials and …, 2023

… In this comparative study, it can be seen that the stainless steel **coating** made with   
an undercoat is the most resistant to **abrasive** wear because it represents the lowest   
wear rate obtained for the two sliding speeds. This can be explained by the …

[Tribological properties of self-healing NiCrAlY/Cr3C2-Ti3AlC2 **coating** at high temperatures](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0257897223003857&hl=en&sa=X&d=14868569276875246426&ei=uy5fZKiGKsCQ6rQPv42pkAM&scisig=AGlGAw9OZ3BOmV98y8Q_-PM_dCdV&oi=scholaralrt&html=&pos=0&folt=kw)

H Chen, B Hu, J Wang, J Wang, Y Gao - Surface and Coatings Technology, 2023

… Among these **coating** systems, alumina containing **abrasives** react quickly with   
the Ni-based alloy phases, giving rise to the … **abrasive** particles, deteriorating the   
wear resistance of the **coating**. At 1000 C, cBN particles tends to shed, and the …

[Mechanical Properties and Wear Resistance of CrSiN **Coating** Fabricated by Magnetron Sputtering on W18Cr4V Steel](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2079-6412/13/5/889&hl=en&sa=X&d=10307125508994861312&ei=EzpcZLzHEvyGy9YP9MmFqAk&scisig=AGlGAw_lCePJ6nfL6r4BkiCTeXy0&oi=scholaralrt&html=&pos=6&folt=kw)

C Cui, C Yang - Coatings, 2023

… In contrast, Figure 9c,d only show a number of furrows; the appearance of the   
furrows indicates the **coating** belongs to **abrasive** wear [26]. In … From this, we know   
that the wear mechanisms of coatings are severe **abrasive** wear and mild adhesive …

[The post‐annealing effect on tribological and corrosion behaviors of CrN/AlCrN multi‐layered **coating** applied by CAE‐PVD](https://scholar.google.com/scholar_url?url=https://ceramics.onlinelibrary.wiley.com/doi/abs/10.1111/ijac.14419&hl=en&sa=X&d=9782015776574200534&ei=EzpcZLzHEvyGy9YP9MmFqAk&scisig=AGlGAw-a-Y6CKiOYIIX8FMsrtzvb&oi=scholaralrt&html=&pos=9&folt=kw)

E Lotfi‐Khojasteh, H Elmkhah, M Nouri, O Imantalab… - International Journal of Applied …

… 6 (a), the predominant mechanism in the as-deposited **coating** is **abrasive** wear,   
and plowing is visible on the surface. Attached wear debris is also seen in parts of   
the wear scar. EDS analysis shows that the chemical composition of the wear track …

[Effect of Ti content on wear and high-temperature oxidation resistances of laser-clad CoCrMoNbTix high-entropy alloy **coating**](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0167577X23006754&hl=en&sa=X&d=8902029616510033809&ei=i6NZZPvDJvyGy9YP9MmFqAk&scisig=AGlGAw_igixtgJn1CczWoVyw-Xak&oi=scholaralrt&html=&pos=4&folt=kw)

S Zhang, W Qi, R Zhang - Materials Letters, 2023

… The wear mechanism is mainly **abrasive** wear and adhesive wear. For the **coating**   
with the Ti0.25, its surface became smooth compared to … against the friction pair,   
and the resulting particles were pressed into the **coating** surface to form micro-pits …

[Effect of tungsten and vanadium additions on the dry **abrasive** wear and solid particle erosion of flame-sprayed AlCoCrFeMo high entropy alloy coatings](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0263436823001452&hl=en&sa=X&d=13209084150544155424&ei=6D1TZOymLo7oyQT2rJwg&scisig=AGlGAw8eKymTCsUuoGT52IxlgMsE&oi=scholaralrt&html=&pos=3&folt=kw)

S Pal, RB Nair, A McDonald - International Journal of Refractory Metals and Hard …, 2023

… , in order to assess their resistance to dry **abrasive** wear (ASTM G65 Standard)   
and solid-… in order to describe the **coating's** performance under **abrasive** wear and   
solid particle erosion. … Performance assessment under dry **abrasive** wear …

[Effects of Micro-arc Oxidation/Multi-arc Ion Plating Composite Treatment on Microstructure and Properties of TC4 Titanium Alloy](https://scholar.google.com/scholar_url?url=https://link.springer.com/article/10.1007/s11665-023-08032-y&hl=en&sa=X&d=4869153527767150010&ei=6D1TZOymLo7oyQT2rJwg&scisig=AGlGAw_bpsrjWq7-lSeWOEmr-zcc&oi=scholaralrt&html=&pos=5&folt=kw)

J Chen, Q Guo, Z Yang, J Li, Y Guo, W Yang, D Xu - Journal of Materials Engineering …, 2023

… The wear mechanism of TC4, TC4/MAO **coating** and TC4/MAO/CrN **coating** is   
**abrasive** wear. … By studying the microstructure and properties of the **coating**, we   
found that the MAO **coating** with a porosity of about 10 μm was formed on the …

[Microstructure and Wear Performance of CeO2-Modified Micro-Nano Structured WC-CoCr Coatings Sprayed with HVOF](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2075-4442/11/5/188&hl=en&sa=X&d=13612375412342223028&ei=DsRMZP_FH5iUy9YPpeupqAk&scisig=AJ9-iYsUpzm0crfOdtBcxdHOENSd&oi=scholaralrt&html=&pos=1&folt=kw)

X Ding, Q Wang, Y Tian, C Yang, C Yuan… - Lubricants, 2023

… According to previous research, the **abrasive** wear behaviors of the **coating**   
primarily rely on the relative size and hardness of the **abrasive** and hard phases   
within the **coating** [30]. In this study, the hardness of the SiO 2 **abrasive** is lower than …

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For colleagues outside the U.S.: some research articles shown here may be available via your in-house journal subscriptions.

Contact [Jeff Barr](mailto:jeff_barr@praxair.com) if you have any questions or have trouble finding any documents.

[Improvement of the High Temperature Wear Resistance of Laser Cladding Nickel-Based **Coating**: A Review](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2075-4701/13/5/840/pdf&hl=en&sa=X&d=3324468713040872989&ei=YO5JZOzwN6iI6rQPlL-HGA&scisig=AJ9-iYv8Majh2UrqRTyhpK6SNbtO&oi=scholaralrt&html=&pos=1&folt=kw)

Y Liu, K Wang, H Fu - Metals, 2023

… most obvious improvement in the wear resistance, at which time the wear   
mechanism of the **coating** surface was slightly **abrasive** wear. … compounds further   
enhances the strength of the **coating** and effectively enhances the high temperature …

[A high temperature wear-resistant Ni-based alloy **coating** for coppery blast furnace tuyere application](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0257897223003250&hl=en&sa=X&d=3837737462763099454&ei=YO5JZOzwN6iI6rQPlL-HGA&scisig=AJ9-iYsUtdUS0mj5aobbGBgcI2T2&oi=scholaralrt&html=&pos=6&folt=kw)

W Wu, C Zhang, R Wang, Y Zhang, X Lu - Surface and Coatings Technology, 2023

… **coating** is affected, and the obtained **coating** can be regarded as a new nickel-based   
alloy material composed of Cu and Ni60A alloy [22]. The **coating** … Results indicate   
that the wear mechanism of **coating** at 300 C is a typical **abrasive** wear, which is the …

[Tribological Properties and Corrosion Resistance of Stellite 20 Alloy **Coating** Prepared by HVOF and HVAF](https://scholar.google.com/scholar_url?url=https://www.mdpi.com/2079-6412/13/4/806&hl=en&sa=X&d=4750253717667989380&ei=sgJHZLLcJ8mN6rQPxe6VwA0&scisig=AJ9-iYvOmLEIoC28SWWU8vkgeO2I&oi=scholaralrt&html=&pos=0&folt=kw)

Z Zhou, J Yong, J Hao, D Sun, Q Cheng, H Jing, Z Zhou - Coatings, 2023

… The wear mechanism of the HVAF **coating** is **abrasive** wear, while the wear mechanism   
of the HVOF **coating** is mainly fatigue wear with slight **abrasive** wear. The HVAF   
**coating** demonstrates superior wear resistance due to its higher flame velocity, denser …

[A new elastic **abrasive** jet machining method for post–treatment of tool coatings: A case study on TiAlN **coated** tools for titanium machining](https://scholar.google.com/scholar_url?url=https://www.sciencedirect.com/science/article/pii/S0301679X23003201&hl=en&sa=X&d=7571349341799131537&ei=OHpDZNSBLPKP6rQPzs6N8A0&scisig=AJ9-iYvasU4kOSpBaLyJWW74lmAT&oi=scholaralrt&html=&pos=1&folt=kw)

K Zhuang, L Wan, J Weng, Z Wu, Y Zhang, C Tian… - Tribology International, 2023

… developed elastic **abrasive** jet machining (EAJM) method on the TiAlN **coated**   
tools. It employs the self–developed multi–element polymer beads as **abrasives** in   
air jet machining. The results indicate that post–treatment with EAJM can …

[Influence of **abrasive** deburring in indirect tool wear measurement in micromilling of Inconel 718](https://scholar.google.com/scholar_url?url=https://link.springer.com/article/10.1007/s40430-023-04190-1&hl=en&sa=X&d=16943198682695989366&ei=OHpDZNSBLPKP6rQPzs6N8A0&scisig=AJ9-iYtTLP-UMf-cgQjnYjN3wYG1&oi=scholaralrt&html=&pos=3&folt=kw)

G de Paiva Silva, M Bacci da Silva, D de Oliveira - Journal of the Brazilian Society of …, 2023

… Thus, this work aims to evaluate the influence of **abrasive** deburring in tool wear   
measurement … **abrasive** particles and fragments of removed material on the   
bottom of the slots; however, the presence of **coating** on the micromill and the use of …

[Evaluation of **abrasive** wear resistance of self-fluxing Ni-base coatings by scratch testing](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2Fscholar_url%3Furl%3Dhttps%3A%2F%2Fjesi.astr.ro%2Fwp-content%2Fuploads%2F2023%2F04%2F3_Munteanu-C.pdf%26hl%3Den%26sa%3DX%26d%3D847697837989023629%26ei%3D8WM5ZIOuMsyR6rQPsqeXSA%26scisig%3DAJ9-iYu97WG0NGm2PWZ2KVm-GCTS%26oi%3Dscholaralrt%26html%3D%26pos%3D0%26folt%3Dkw&data=05%7C01%7Cjeff.barr%40linde.com%7C604d5f513217483c889608db3cf50f6d%7C1562f00709a44fcb936be79246571fc7%7C0%7C0%7C638170795624663666%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=7iJrVDueUwq5Np3sMOjzdZ2Ve08UMwcHfzkk0OX%2FUHM%3D&reserved=0)

C MUNTEANU, DL CHICET, B ISTRATE, M BENCHEA… - Technical Sciences, 2023

… The **coated** samples were cut using **abrasive** disc water-cooled and were coldmounted   
in polyester resin, for the scratch tests conducted on **coating** cross-section. The   
samples for both scratch tests were polished following standard metallographic …