

==== MATERIALS TECHNOLOGY ====

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A new Market Report on the Bonded Abrasives, Coated Abrasives and Superabrasives Industry....

THE ABRASIVES INDUSTRY IN EUROPE AND NORTH AMERICA: A MARKET / TECHNOLOGY REPORT

By John Briggs, *Enceram*, and Ted Giese, *Abrasive Engineering Society*

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The report provides in-depth information on:

- Markets for bonded and coated abrasive products by product type, country/region and applications
- Markets for superabrasive products (diamond and CBN) by bond type, country/region and applications
- Growth prospects for abrasives by product type
- Market shares by company for coated and bonded abrasives and abrasive grains
- Production and consumption of natural abrasives (garnet, pumice, olivine, emery, silica etc)
- Markets for synthetic abrasive grains (aluminium oxide, silicon carbide and superabrasive grains)
- Synthetic diamond production capacity and trade (by country)
- Markets for metallic, glass and other loose abrasives for blast cleaning, shot peening and water-jet cutting
- Growth trends in end-user sectors
- Review of diamond saw and wire saw markets
- Assessment of technological developments – such as chemo-mechanical polishing (CMP), boron compounds, and aggregated diamond nanorods
- Import and export statistics for bonded and coated abrasive products to and from West European and East European countries, North American and selected Asian countries
- Import and export statistics for abrasive grains to and from West European and East European countries, North American and selected Asian countries
- Over 470 A4 pages and over 340 tables giving market statistics and other data (import/export, production, etc)
- Profiles of multinational, US and European-based abrasives manufacturers; their size, market position and product range

AVAILABLE NOW – “**The Abrasives Industry in Europe and North America: A Market / Technology Report**” is a market report of over 470 pages that analyses the markets for bonded abrasives, coated abrasives, superabrasives, loose abrasives and abrasive grains. It provides in-depth data on production, consumption, trade, and markets by region, forecasting growth to 2010. The emphasis is on markets in North America as well as Western and Eastern Europe, though the growing Asian sector is also examined.

The in-depth report also provides: statistical information on abrasive products and abrasive grains in over 340 tables (recent data on imports, exports, production, etc); a review of key producers (company activities, market position, recent performance, etc); an assessment of end-user sectors; technology trends (such as microcrystalline abrasives, CMP, wire-sawing, new grain types, bonds and backing materials).

This is the fifth edition of the report (the previous edition was published in 2003) and the information it contains has been completely up-dated and expanded.

The total value of abrasive products produced in the USA in 2005 was \$3.6 billion, comprising around \$1.8 billion of coated and related products, \$1.0 billion of bonded products (including superabrasives), \$700 million of loose abrasives and \$125 million of metallic abrasives. Consumption of abrasives in the USA in most categories was higher than domestic production due to substantial imports. The US industry showed some recovery in 2004/2005 but the prospects for the period 2006-2010 are for stability with growth in only a few niche markets.

The West European bonded abrasives market, excluding superabrasives, was valued at around €840 million in 2005 and is not expected to show significant growth in the period 2006-2010. The coated abrasives market, on the other hand, which was valued at €890 million in 2005, is expected to continue growing at around 2% per year to reach €980 million by 2010.

The value of diamond and cubic boron nitride (CBN) products sold in Western Europe is around €1.2 billion, excluding single point cutting tools and large stones. The value of superabrasives sold in North America was less than in Europe, primarily because the market for saw grits in Europe is much larger than that of the USA.

Total demand for blast cleaning and related abrasive material in Western Europe is in excess of 850,000 tonnes, excluding silica sand, and is worth approximately €280 million. This total includes about 220,000 tonnes of steel and cast iron abrasives.

Overall, therefore, the total market for loose, bonded, coated and superabrasive products in Western Europe in 2005 was valued at about €3.2 billion. Germany is the largest national market in Europe, with about one third of the total. The overall total is expected to grow by around 1.5% per year by value over the period 2006-2010 to reach €3.4 billion in 2010. The total value of loose, bonded, coated and superabrasive abrasives consumed in Eastern Europe is estimated at around €800 million, about 25% of the West European total.

Abrasive raw materials, such as silicon carbide and fused aluminium oxide, which are consumed in bonded and coated abrasive products, add up to around 200,000 tonnes in Western Europe, with a corresponding value of €160 million. Around 320-340 million carats (about 67 tonnes) of superabrasive diamond and CBN grains were consumed in Europe in 2005, mainly for saw grits. This total is still expanding rapidly but prices will continue to fall due to cheaper methods of production. The value of crude fused aluminium oxide abrasive grain sold in the USA in 2005 was \$65 million. Large quantities of metallic abrasives (236,000 tons in 2005) are consumed in the USA, and the use of metallic abrasives is also growing rapidly in China.

SUMMARY OF REPORT CONTENTS

INTRODUCTION

SCOPE OF THE REPORT

MATERIALS, PROPERTIES AND APPLICATIONS

- Abrasive Grain Production – fused aluminium oxide, microcrystalline aluminium oxide, silicon carbide, synthetic diamonds, cubic boron nitride, boron carbide, cerium oxide, natural abrasives, pumice, garnet, olivine, tripoli, staurolite
- Abrasive Materials Properties and Standards – hardness, friability/strength, shape and size
- Recent developments in superhard materials, research projects
- Bonded Abrasives – bond types, nomenclature, applications
- Coated Abrasives – materials properties, applications
- Loose Abrasives – metallic, garnet and other natural types, glass, other types
- Health and Safety – silica dust, grinding wheel safety, coolants, vibration and noise
- Abrasive Techniques and Methods – grinding methods, blasting, shot peening, tumbling and other mass media methods, polishing, water-jet cutting, brushes, CMP, wire-sawing, non-wovens, abrasive foams

MARKETS AND TRADE IN ABRASIVE GRAINS AND ABRASIVE PRODUCTS

- Aluminium oxide, bauxite, silicon carbide, industrial diamond, cubic boron nitride, superabrasive product markets, natural abrasives. Metallic abrasives, bonded abrasives, coated abrasives, blasting media, other abrasive products

MARKETS, PRODUCTION AND TRADE BY COUNTRY AND REGION

- Growth trends in user sectors: metalworking, automobile production, woodworking, construction, machine tools, semiconductors
- Trade patterns by country/region: Western Europe, Eastern Europe, North and South America, Asia

MAJOR PRODUCERS OF ABRASIVES

- Profiles of multinational, US and European-based abrasives manufacturers: their size, market position, financial performance and product ranges (for details see list opposite)

SUMMARY AND CONCLUSIONS

APPENDICES

Currency Exchange Rates, Bibliography, Associations, Company Subsidiary Cross Reference, Company Addresses, Multilingual listing of Abrasive Terms

SOME OF THE COMPANIES FEATURED IN THE REPORT

- Abrasive Technologies Inc
- Abrasive Technology
- Alcan ARC
- Almatix
- Asahi Diamond Industrial Co Ltd
- Baikowski International Corp
- Bavelloni SpA
- Boart Longyear Co
- Boksitogorsk
- Cabot Microelectronics Corp
- Carbo plc
- Carbo Ceramics
- Comet dd
- CUMI (Carborundum Universal Ltd)
- Diamant Boart SA
- Diamond Innovations Inc
- Disco Corp
- Electrolux/Husqvarna Group
- Element Six
- Elfusa Geral de Eletrofusao Ltda
- Ervin Amasteel
- Hermes Schleifmittel GmbH & Co KG
- Ilyich Abrasive Co
- Kinik Co
- Klingspor GmbH
- Kollo Silicon Carbide BV
- Krebs & Riedel GmbH
- KWH Mirka Ltd
- Lippert Abrasives Inc / Lippert-Unipol
- Meister Abrasives Corp
- Motim Co Ltd
- Navarro SiC SA
- Noritake Co Ltd
- North Cape Minerals
- Opta Minerals Inc
- Orkla Exolon KS
- Osborn International
- Pferd
- Pometon SpA
- Potters Europe
- Radiac Abrasives Inc
- Rappold Winterthur Schleiftechnik GmbH
- Rohm & Haas Electronic Materials
- Rösler Gleitschlifftechnik GmbH & Co KG
- Saint-Gobain Group
- SAIT Abrasivi SpA
- Showa Denko KK
- SlipNaxos AB
- Sovitec SA
- HC Starck GmbH & Co KG
- Swaty dd
- SIA Abrasives
- TAF Srl
- 3M Co
- Treibacher Schleifmittel AG
- Tyrolit Schleifmittelwerke Swarovski KG
- Umicore SA
- VSM AG
- Washington Mills Electro Minerals Corp
- Wheelabrator Alleward SA (Metabrasive)
- Wheelabrator Group
- Yurginsky Abrazivny Zavod
- Zaporozhy Abrazivny

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SOME OF THE 340+ TABLES FEATURED IN THE REPORT:

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ABOUT THE AUTHORS

Author Dr John Briggs has worked as an industrial consultant since 1984, providing marketing and technical advice on inorganic materials through the Enceram consultancy. He was the author of the previous four editions of this report. Prior to becoming a consultant, Dr Briggs worked for the Battelle Institute, and subsequently for the Morgan Crucible Group.

Ted Giese has been writing about in the US abrasives industry since 1988, when he became the magazine editor for the Abrasive Engineering Society, a US-based technical society for the abrasives industry. He is also the author of a previous market study on the US market for abrasives. Giese created the Abrasives Mall internet site in 1995 and has also prepared several websites for US abrasives companies. He also publishes news about the industry in the Abrasive User's News Fax, which is now in its eleventh year of publication.