EXTREMELY ANTI-WEAR HIGH-PERFORMANCE CERAMIC

DEVELOPED AS PART OF 5 YEARS’ INTENSIVE RESEARCH. SUCCESSFULLY IN USE FOR 16 YEARS.
CERAMIC: TODAY!

- Exceptionally wear-resistant
- Extremely temperature-stable
- Electrically and magnetically neutral
- Frequency-neutral
- Solder-resistant and abrasion-resistant
- Resistant against galling, prevents any material accumulation
- Ideal for clean rooms
- Chemically inert
- More than 20 times the service life compared to hardened steel
- Approved for food processing

CERAMIC: IN THE PAST!

Example: test plug for an automotive supplier as an assembly with components made of high-performance ceramic, plastic, and metal.
WHY CERAMIC COULD TRANSFORM YOUR TESTING ONCE AND FOR ALL

THE SUPERIOR PROPERTIES OF DOCERAM HIGH-PERFORMANCE CERAMIC WITH REGARD TO HARDNESS, WEAR RESISTANCE, TEMPERATURE RESISTANCE, IMPACT STRENGTH, ABRASION RESISTANCE AND ANTI-ADHESION CONTRIBUTE TO MAKING PROCESSES AND SEQUENCES OF MACHINES AND PLANTS MORE SECURE AND QUALITY-FOCUSED. COMPONENTS MADE OF HIGH-PERFORMANCE CERAMIC ARE INCREASINGLY REPLACING CONVENTIONAL MATERIALS SUCH AS METAL AND PLASTIC.

BENEFITS OF TEST PLUGS MADE OF HIGH-PERFORMANCE CERAMIC:

- EXTREME ANTI-WEAR PROPERTY, LEADING TO SIGNIFICANTLY EXTENDED SERVICE LIVES
- IDEAL ALSO FOR COMBINED FUNCTION / SWASH CIRCUMFERENCE TESTS
- CAN BE REALISED EVEN FOR THE SMALLEST OF GEOMETRIES: 0.3 MM WALL THICKNESS
- HIGH TECHNICAL PURITY: THE COMPONENT IS NOT SUBJECT TO ABRASION OR INCORRECT MEASUREMENTS; THE SPRING CONTACT PINS DO NOT BECOME PREMATURELY FAULTY
- OPTIONALLY WITH INFEED CHAMFER (FOR TESTING SWASH CIRCUMFERENCE)
- THE PLUG CAN BE CONSTRUCTED USING THE COUNTERPART (SOCKET)
DOCERAM TEST PLUGS MADE OF HIGH-PERFORMANCE CERAMIC ARE ALREADY BEING USED AS STANDARD BY RENOWNED CAR MANUFACTURERS FOR DEPENDABLE 100% TESTING OF CAR ELECTRONICS.

PROCESS SECURITY, PRODUCT QUALITY - WE KNOW WHAT IS IMPORTANT

TESTING SWASH CIRCUMFERENCE PLUGGABILITY

CERAMIC

- Contact pin outside of the swash circumference = not OK
- Not OK contact pin is bent
- No contact possible

PLASTIC

- Not OK contact pins = abrasion/dirt
- Abrasion/dirt = Spring contact pins’ service life massively reduced
- Plug’s shape/tolerance not OK

DOCERAM TEST PLUGS MADE OF HIGH-PERFORMANCE CERAMIC ARE ALREADY BEING USED AS STANDARD BY RENOWNED CAR MANUFACTURERS FOR DEPENDABLE 100% TESTING OF CAR ELECTRONICS.
If you have any questions about high-performance ceramic, please contact us.

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SUMMARY: FOR USE IN TECHNICAL APPLICATIONS, CERAZUR™ OFFERS YOU AN VAST RANGE OF OPPORTUNITIES TO DESIGN PROCEDURES AND PROCESSES IN A MORE STABLE, LONG-LASTING AND SECURE MANNER. YOU CAN FIND OUR PRODUCTS IN THE FOLLOWING INDUSTRIES:

- MECHANICAL AND PLANT ENGINEERING
- AUTOMOTIVE AND SUPPLIERS
- WELDING TECHNOLOGY
- FIXTURE CONSTRUCTION
- FOOD INDUSTRY
- MEDICAL TECHNOLOGY
- CHEMICAL INDUSTRY
- METAL FORMING
- ELECTRICAL/ELECTRONICS INDUSTRY AND MECHATRONICS
- TESTING TECHNOLOGY
- PUMP INDUSTRY
- PAPER INDUSTRY
- TEXTILE INDUSTRY
- WIND POWER PLANTS
- OTHER INDUSTRIES

PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>Unit</th>
<th>Cerazur</th>
<th>Aluminium oxide</th>
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<tbody>
<tr>
<td>Composition</td>
<td>-</td>
<td>ZrO₂, Y-PSZ</td>
<td>Al₂O₃ &gt;99.7%</td>
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<tr>
<td>Colour</td>
<td>-</td>
<td>blue</td>
<td>ivory</td>
</tr>
<tr>
<td>Density</td>
<td>(g/cm³)</td>
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<tr>
<td>Bending strength</td>
<td>(MPa)</td>
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<tr>
<td>Compressive strength</td>
<td>(MPa)</td>
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<tr>
<td>E-modulus</td>
<td>(Gpa)</td>
<td>205</td>
<td>390</td>
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<tr>
<td>Impact strength</td>
<td>(Mpa m/2)</td>
<td>12</td>
<td>5.2</td>
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<tr>
<td>Weibull modulus</td>
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<tr>
<td>Vickers hardness</td>
<td>(HV 0.5)</td>
<td>1150</td>
<td>2000</td>
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<tr>
<td>Thermal expansion</td>
<td>(10⁻⁴K⁻¹)</td>
<td>10</td>
<td>5.5-8.4</td>
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<tr>
<td>Thermal conductivity</td>
<td>(W/mK)</td>
<td>&lt;2</td>
<td>28</td>
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<tr>
<td>Thermal shock resistance</td>
<td>(ΔT°C)</td>
<td>280</td>
<td>120</td>
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<tr>
<td>Maximum operating temper-</td>
<td>(°C)</td>
<td>1000</td>
<td>1700</td>
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<tr>
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<tr>
<td>Specific resistance at 20°C</td>
<td>(Ω cm)</td>
<td>&gt;10⁶</td>
<td>&gt;10⁵</td>
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<tr>
<td>strength</td>
<td>(kW/mm)</td>
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