



# SOLCERA

Advanced Materials



**CERA4PROTECT®**

**CERA4RESIST®**

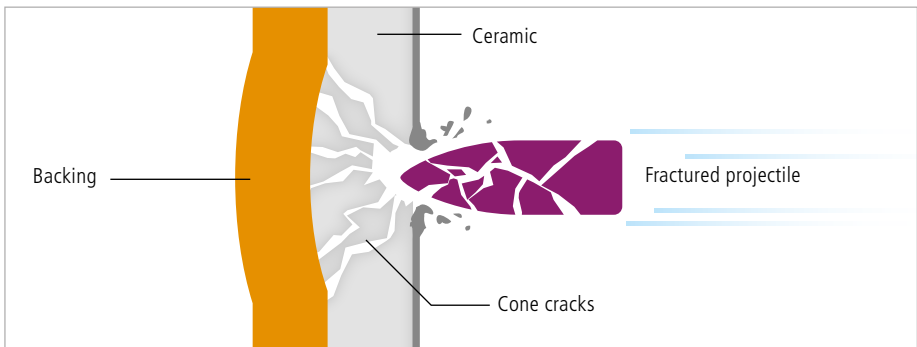
LIGHTWEIGHT HIGH-PERFORMANCE  
**BALLISTIC PROTECTION**

# WHY CHOOSING SOLCERA

- Advanced ceramics, ceramic-metal and glass-metal assemblies
- Approved supplier of French and European military programs for more than 50 years
- Innovation and production for armor and optronic systems
- ISO 9001, 14001 and 45001 certified
- ITAR-free
- Vertical production integration: opaque and transparent ceramics



- Extreme lightweight, high-performance ballistic solutions
- Customized ceramic panels allowing complex shapes (mosaics, holes, cut-outs)
- Lowest density boron carbide panels
- Supplier of major programs (NH90, A400M, etc.)



The ceramic breaks and slows down the projectile, limiting its perforating force. The integration of the ceramic into a metallic or composite structure (backing) absorbs the energy of the impact and retains the fragments.

		<b>CERACRESIST<sup>®</sup> WHITE</b> 	<b>CERACRESIST<sup>®</sup> BLACK</b> 	<b>CERA4PROTECT<sup>®</sup></b> 
	Units			
Composition		Alumina 98% to 99,99%	Carbides	Magnesium Aluminate Spinel
Density	g/cm <sup>3</sup>	3.80 to 3.98	2.5 to 3.2	3.58
Hardness - Vickers	GPa	12 to 21	15 to 30	14
Flexural Strength	MPa	200 to 600	300 to 450	350
Typical size	nm	<b>A wide range of dimensions and specific shapes can be manufactured on demand</b>		
		50 x 50, K20 or K30	400 x 400 K20, K30, K40	50 x 50 to 300 x 300
Applications				
Benefits		<ul style="list-style-type: none"><li>• Cost effective solution</li><li>• High production capacity at our different facilities</li><li>• Flexible design and dimensions</li></ul>	<ul style="list-style-type: none"><li>• The most lightweight ceramic armor materials (SiC / B<sub>4</sub>C)</li><li>• Best ballistic performance</li><li>• Large capacity (hot pressing, sintering, silicon infiltration)</li></ul>	<ul style="list-style-type: none"><li>• Weight savings up to 50% compared to glass</li><li>• Resistance to extreme conditions</li><li>• Transparent from near UV (300nm) to infrared (5µm)</li></ul>



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