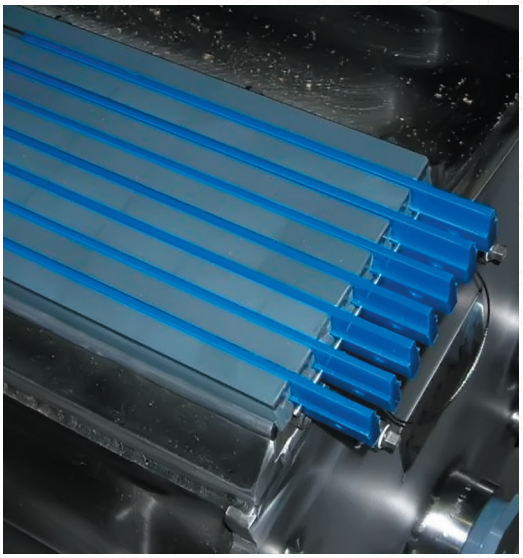
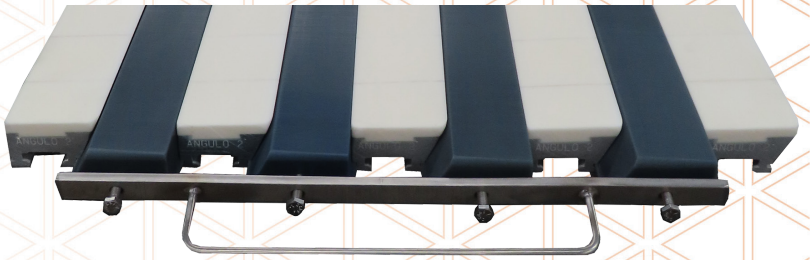
KADANT

DOCTORING, CLEANING, FILTRATION, FORMING

Ceramic Wear Surfaces





Paper machines demand high quality durable ceramic wear surfaces to meet the every day challenges of production. Kadant ceramic wear surfaces have been meeting those demands for decades with a proven successful track record.

Overview

Forming Section
- Forming boards
- Foil blades
- Activity blades
- Step foils
- Low vac blades
- Suction box covers
- Multi-chamber high vacuum boxes
- Lead-in / transfer boxes
- Top formers
- Gap formers
- Edge suction boxes

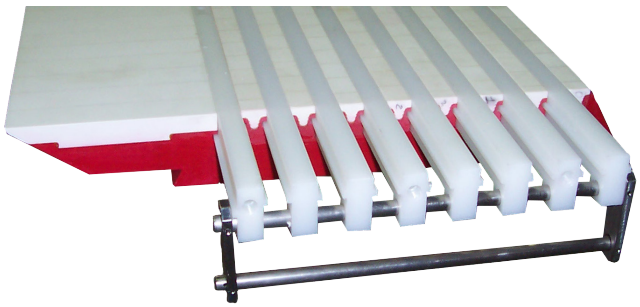
Press Section
- Uhle box strips
- Ceramic herringbone
- Blow box and anti-blow box

Available Materials
- Aluminum Oxide
- Silicon Nitride
- Silicon Carbide

Features & Benefits

Features
- Propriety construction
- OEM replacements designs
- Highest quality ceramic materials

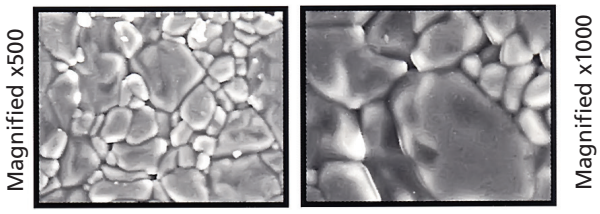
Benefits
- Improved fabric life
- Lower dragload
- Long ceramic life



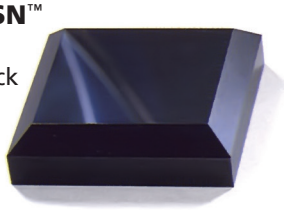
All Ceramic Materials Are Not the Same

Alumina Ultrawear AL™ Ceramic Wear Surfaces

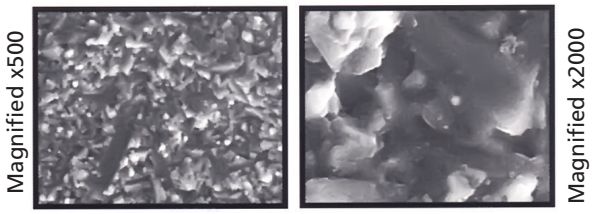
Advantages: Low cost; good wear and corrosion resistance; moderate machine drag.
Disadvantages: Low thermal shock resistance; can cause high fabric wear.
Applications: Fourdrinier, except on flatboxes when calcium carbonate is used.



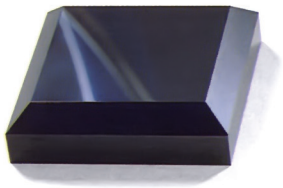
Silicon Nitride Ultrawear SN™ Ceramic Wear Surfaces



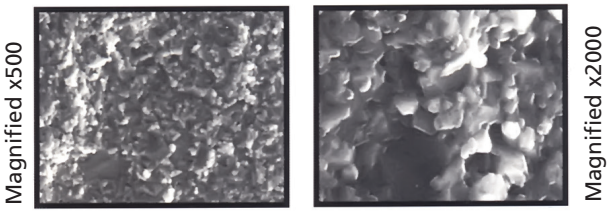
Advantages: High thermal shock resistance; low fabric wear, low drive load; best all-around combination of wear, chip, and corrosion resistance.
Disadvantages: Cost
Applications: High stress applications, like suction boxes and felt strips; all applications where calcium carbonate is used.



Silicon Carbide Ultrawear SC™ Ceramic Wear Surfaces



Advantages: The hardest, most wear resistant ceramic; moderately high thermal shock resistance.
Disadvantages: High cost; susceptible to chipping; lower thermal shock than Silicon Nitride; higher thermal stress than Silicon Nitride.
Applications: All applications where severe ceramic wear is present.



Property	Kadant Solutions Ceramics			
	Alumina	Silicon Nitride	Silicon Carbide	Zirconia*
Bulk Density	3.8	3.2	3.2	5.7
Flexural Strength (kg/m)	31	60	55	65
Vickers Hardness (kg/mm^2)	1650	1400	2000	1250
Thermal Expansion (10^6/C°)	7.1	2.6	4.0	11.1[1]
Fracture Toughness (MN/m 3/2)	3.5	5.7	5.6	9
Thermal Shock Resistance (ΔT C°)	200	550	400	300[1]
Thermal Conductivity (cal/cm. sec. C°)	0.06	0.05	0.15	0.0009
Coefficient of Friction	High	Very Low	Moderate	Low

* Note: Kadant does not recommend Zirconia for use in any wear surface application.
[1] Note: Characteristics that lead to Zirconia cracking.

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KADANT SOLUTIONS DIVISION
35 Sword Street
Auburn, MA 01501 USA

Tel: +1 508-791-8171
Email: info@kadant.com

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Replaces All Previous Versions