

MCP SERVER

NO CODE

CLOUD HOSTED

Board Ding Repair Assistant MCP

Get precise repair plans for composite boards.

Board Ding Repair Assistant is a specialized MCP that handles the technical math and chemistry for surfboard maintenance. It calculates the exact amount of resin and fiberglass you need, determines the best repair method based on damage severity, and checks if your chosen materials are chemically compatible with your board's core, like EPS or PU.

A+ Quality Score 100/100

surfboard

repair

composite

maintenance

epoxy



The connectivity layer between AI and the world's software.



Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Board Ding Repair Assistant MCP

4 tools available

Cloud-hosted on Vinkius

Fixing a surfboard isn't just about slapping resin on a crack. If you use the wrong resin on an EPS core, you'll melt the board. If you misjudge water absorption, you might be looking at a total structural failure. This MCP acts as a technical consultant for your repair projects. You can feed your AI client details about a puncture or delamination, and it will run the numbers to tell you exactly what to buy and how to fix it. It handles the compatibility checks between resins and cores so you don't ruin expensive gear. It also evaluates how much water has likely soaked into the foam to help you decide if a simple patch is enough or if the board is a lost cause. Instead of guessing, you get a specific technical roadmap for every ding.

Core Capabilities

01 — Material Calculation

The AI calculates the exact volume of resin and amount of cloth needed for a specific damage area.

02 — Chemical Compatibility

The AI checks if your resin choice is safe for EPS, PU, or carbon fiber constructions.

03 — Damage Assessment

The AI evaluates the risk of internal structural failure based on water exposure.

04 — Method Selection

The AI picks the right repair technique based on the size and type of the ding.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/board-ding-repair-assistant — connect your AI agent in three steps.

- 01
- Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02
- Describe the board type and the damage to your AI client.
- 03
- The AI uses the MCP tools to run calculations and compatibility checks.
- 04
- Receive a specific repair strategy and material list.

Connect the MCP to your AI client and start asking technical questions about board damage.

Built For

This MCP is built for anyone maintaining composite boards who wants to avoid chemical errors or structural failures.

Surfboard Repair Technicians

They use the tool to quickly generate material lists and verify resin compatibility for customers.

Shapers and Manufacturers

They use it to check the structural integrity of boards after damage occurs.

Surfers and Hobbyists

They use it to ensure they don't ruin their boards with the wrong repair materials.

What Changes When You Connect

- 01
- Prevents core damage by verifying resin and foam compatibility.
- 02
- Reduces wasted materials by calculating exact consumable needs.
- 03
- Identifies hidden structural risks from water absorption.

04 Provides a technical roadmap for different damage severities.

Real-World Applications

Puncture Repair

Determine if a small hole in an EPS board requires a simple patch or a more intensive fix.

Material Verification

Check if a specific resin is safe to use on a carbon fiber or PU board before starting work.

Delamination Fixes

Calculate the amount of resin required to fill a specific area of delamination.

Safety Checks

Assess if a board that sat in the water too long is still structurally sound.

4 Tools Available

#	TOOL	DESCRIPTION
01	assess_water_damage_risk	This tool checks if water absorption has caused internal structural failure. It helps you decide if a board is still safe to ride after a puncture.
02	calculate_material_requirements	This tool generates a list of the specific consumables you need. It tells you exactly how much resin, fiberglass, or sandpaper to have on hand for a specific repair.
03	get_construction_compatibility	This tool validates chemical and structural compatibility. It ensures the resin you pick won't damage the specific core material of your board.
04	get_repair_strategy	This tool determines the best technical approach for a repair. It looks at the severity of the damage to pick the right method.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U I have a 5cm² puncture on an EPS surfboard that was in the water for 10 minutes. What is the repair strategy?



The recommended method is a surface patch. For a 5cm² puncture on EPS, you will need Epoxy Resin and Fiberglass Cloth. The water damage risk is Low.

U How much resin do I need for a 20cm² delamination on a PU board?



For a 20cm² delamination on a PU board, you will need approximately 45ml of resin along with fiberglass cloth and sandpaper.

U Is it safe to use a standard patch on a carbon fiber board?



You should check compatibility first. Using `get_construction_compatibility` will confirm if the specific repair method is structurally suitable for carbon fiber.

Frequently Asked Questions

01 Can I use this MCP with Claude?

Yes. You can connect this MCP to any compatible client like Claude, Cursor, or Windsurf through the Vinkius platform.

02 How does it help with resin selection?

The tool uses `get_construction_compatibility` to ensure the resin you choose won't chemically react poorly with the board's core material.

03 Will it tell me how much resin to buy?

Yes. The `calculate_material_requirements` tool provides specific amounts of consumables needed for your repair.

04 Does it work for epoxy and polyester resins?

Yes. It checks compatibility for various materials to ensure the repair is structurally and chemically sound.

05 How does it handle water damage?

The `assess_water_damage_risk` tool evaluates the potential for internal structural failure caused by water absorption.

06 How do I know if my board needs vacuum bagging?

You can use the `'get_repair_strategy'` tool. It will automatically indicate if `'vacuumBagRequired'` is true based on the damage size and type.

07 Can I use any resin on my EPS foam board?

No. You should use `'get_construction_compatibility'` to verify if your chosen repair method is safe for your specific board construction to avoid melting the foam.

08 What should I do if water entered my board?

Use `'assess_water_damage_risk'` to evaluate the risk level and receive remediation advice regarding core saturation.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+" Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"board-ding-repair-assistant": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Board Ding Repair Assistant is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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