

M C P   S E R V E R

N O   C O D E

C L O U D   H O S T E D

# Core Strength Surf Requirements MCP

Calculate the physical demands of your next surf session.

Core Strength Surf Requirements MCP uses biomechanical data to map out the exact physical toll of specific surfing conditions. It calculates peak core strength needs based on wave power, board dimensions, and maneuver difficulty. You can use it to figure out how much training you actually need to stay stable in heavy water or avoid fatigue during a long session.

**A+** Quality Score 100/100

surfing

core-strength

training

biomechanics

fitness



# 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

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## 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

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## 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

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## 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](https://cloud.vinkius.com) — connect your AI agent in under 60 seconds.

# Core Strength Surf Requirements MCP

4 tools available

Cloud-hosted on Vinkius

Stop guessing how much training you need to handle a specific swell. This MCP translates wave physics and equipment specs into actionable physical requirements. You provide the details about the wave power, your board size, and the maneuvers you plan to throw, and your AI client does the math. It breaks down the peak core strength required to stay stable against wave forces and identifies the endurance thresholds where fatigue might cause you to lose control. Instead of following generic fitness plans, you get specific training loads tailored to the exact conditions you're targeting. It's a way to bridge the gap between ocean conditions and your physical preparation.

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## Core Capabilities

### 01 — Stability Calculation

Your agent uses wave power and board size to find the peak strength needed to stay upright.

### 02 — Fatigue Prediction

The AI calculates how long your core can sustain stabilization before performance drops.

### 03 — Training Planning

Your agent determines the total physical work required to prepare for a specific swell.

### 04 — Style Adjustments

The AI applies biomechanical multipliers based on your specific surfing style.

# One Click on Vinkius — From Prompt to Execution

Available at [vinkius.com/en/ai-agent-connect/core-strength-surf-requirements](https://vinkius.com/en/ai-agent-connect/core-strength-surf-requirements) — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius hosted MCP.
- 02 Provide wave power, board size, and style details to your agent.
- 03 The agent calls the specific biomechanical tools.
- 04 Receive precise strength, endurance, or training load data.

Connect your client to Vinkius and start running biomechanical calculations immediately.

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## Built For

This is for surfers who want to use data to drive their physical training.

### Surfers

They ask the AI to calculate specific training loads for upcoming trips.

### Surf Coaches

They use the biomechanical data to design periodized training programs for athletes.

### Strength Coaches

They hand off the physical requirements to their programming software.

# What Changes When You Connect

- 01 Matches physical training to actual ocean conditions.
- 02 Identifies fatigue risks before you hit the water.
- 03 Provides specific strength indices based on equipment leverage.
- 04 Removes guesswork from weekly training workloads.

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## Real-World Applications

### Trip Preparation

Calculate the training load needed for a heavy swell trip before you fly out.

### Fatigue Management

Determine how long you can maintain stability in heavy waves to avoid injury.

### Equipment Changes

See how switching to a smaller board changes your peak core strength requirements.

### Style Optimization

Adjust your training based on the biomechanical multipliers of your specific surfing style.

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# 4 Tools Available

| #  | TOOL                      | DESCRIPTION                                                                                                      |
|----|---------------------------|------------------------------------------------------------------------------------------------------------------|
| 01 | get_endurance_needs       | This tool determines how long your core can maintain stability before fatigue starts affecting your performance. |
| 02 | get_strength_requirements | This tool calculates the peak core strength you need to stay stable against wave forces and equipment leverage.  |
| 03 | get_style_profile         | This tool provides specific biomechanical multipliers based on the surfing style you choose.                     |
| 04 | get_training_load         | This tool calculates the total physical work you need to complete to prepare for specific surfing conditions.    |

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## See It in Action

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

**U** What core strength do I need for a high-power wave with a small board and difficult maneuvers?



For high wave power and a small board, you will need a peak core strength index of 85 Newtons to maintain stability.

**U** How much training do I need if I want to prepare for longboard surfing?



To prepare for longboard surfing, you should aim for a weekly workload of 45 units with 3 dedicated core sessions per week.

**U** What is the fatigue risk for a shortboard surfer in heavy waves?



In heavy waves, a shortboard surfer faces a high fatigue risk, with stability expected to degrade within 20 minutes of intense maneuvering.

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## Frequently Asked Questions

### 01 How does this MCP calculate strength needs?

It analyzes wave power, board size, and the difficulty of maneuvers to find the peak core strength required for stability.

### 02 Can I use this to plan my weekly workouts?

Yes, you can use the training load tool to calculate the total physical work needed for your target conditions.

**03 Does it account for different types of surfboards?**

Yes, the tool uses board size and equipment leverage to determine the necessary core strength.

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**04 What clients can I use this with?**

You can use this with any MCP-compatible client like Claude, Cursor, or Windsurf.

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**05 How does surfing style affect the results?**

The MCP uses specific biomechanical multipliers based on your chosen surfing style to adjust the requirements.

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# Go Live in 60 Seconds

Get your connection token from [cloud.vinkius.com](https://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                                                                                          |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  <b>Claude AI</b>  | Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint                              |
|  <b>Cursor</b>     | Settings → Features → MCP Servers → "+" Add New MCP Server" → Type: SSE → Paste endpoint                    |
|  <b>VS Code</b>  | Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"core-strength-surf-requirements": { "url": "..." }</code> |
|  <b>Windsurf</b> | MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL                                            |
|  <b>ChatGPT</b>  | Settings → Tools & plugins → Add MCP server → Paste endpoint                                                |
|  <b>Gemini</b>   | 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

# Core Strength Surf Requirements 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](https://cloud.vinkius.com) →**

[vinkius.com](https://vinkius.com) · [support@vinkius.com](mailto:support@vinkius.com)

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DOCUMENT INFORMATION

|            |                                      |
|------------|--------------------------------------|
| Generated  | September 2026                       |
| MCP Server | Core Strength Surf Requirements MCP  |
| Server ID  | 01a0a395-7c86-704b-b0c9-60e4affbf342 |
| Platform   | Vinkius Cloud for AI Agents          |
| Endpoint   | https://edge.vinkius.com/{token}/mcp |

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