MetrixSlide

Engineering Solutions 005: Custom 1U Friction Rail Development with Reduced Pull-Out Extension



Product reference only. This photograph is not a project-specific sample, delivered equipment or proof of completed testing.

> **Documented status: revised drawing direction accepted at customer drawing-review level.** Formal production-side approval and the procurement decision remain unverified. No sample manufacture, physical installation, load-test result, design freeze or production delivery is claimed.

Application and challenge

A telecommunications equipment manufacturer needed a custom friction slide rail for an existing 1RU product in a 19-inch four-post rack. The customer supplied a draft interface drawing and functional requirements, rather than detailed CAD for an existing rail to copy.

The required solution had to address the chassis attachment, rack mounting, removable inner-rail behavior, retention and lock-out position together. The customer accepted a recommended rail direction if it satisfied those interfaces and functions.

Engineering approach

Develop from the interface requirements

MetrixSlide translated the customer interface information into a proposed rail configuration. Rack-hole formats, the required mounting envelope, chassis attachment and service functions were reviewed as an interconnected set of requirements.

The initial drawing direction was submitted for customer discussion. It was an engineering proposal, rather than evidence of a manufactured or tested sample.

Refine extension around the intended test setup

The early drawing used a 300 mm pull-out direction. During review, the customer explained that a shorter lock-out position would better suit the planned rail load-test setup. The team clarified the requested range and issued a revised drawing direction with approximately 150 mm pull-out.

That change illustrates an application decision: maximum travel is not automatically the right service or test position. The extension and lock-out requirements should follow the equipment's intended access, stability and validation needs.

The extension values describe this project's drawing iteration. They are not a general recommended travel distance, a published load rating or evidence that the planned test was completed.

Verified project progress

Date or stage	Recorded progress	Evidence level
July 2026	Customer interface requirements received	Requirements stage
14 and 17 July 2026	Initial and clarified drawing directions submitted	Drawing review
Customer review	Shorter extension and lock-out preference clarified	Functional input for the planned test
24 July 2026	Revised drawing direction issued	Drawing iteration
29 July 2026	Positive customer feedback on the revised drawing	Direction accepted at drawing-review level

The latest available review does not establish a later production approval, sample order, physical installation or load-test result. Procurement remains a separate decision. Positive feedback on a drawing does not advance the project to physical validation or design freeze.

Customization capability

The demonstrated work is interface-led rail development and documented drawing iteration. It includes considering the rack interface, chassis attachment, removable inner rail and service requirements, then revising the extension direction in response to the customer's intended test method.

This approach can begin without a complete prior rail model. The inputs still need to be sufficient for the interfaces and functions under review; later physical performance requires an agreed sample and validation plan.

Customer confidentiality

The original customer interface drawing, proprietary chassis geometry, detailed mounting dimensions, names, correspondence and commercial terms are not reproduced here. The cover photograph is a MetrixSlide product reference, rather than a project-specific sample or completed test.

Discuss a custom extension requirement

Share the non-confidential application, chassis envelope, expected load, service behavior and reason for the requested extension or lock-out position. MetrixSlide can review the rail direction and the next engineering stage. Proprietary details are handled under the agreed scope and confidentiality terms.

Request an application review · Engineering confidentiality