INSULATED PORTABLE TOWER IGK-2 (LEITER)

Technical Description and Main Specifications

GV and Company

Manufacturing and Supply of Railway Infrastructure Equipment
Tbilisi, Georgia • Founded in 2007



About the Company

Manufacturer and Regional Representative of Foreign Manufacturers

GV and Company

- Founded in Tbilisi (Georgia) in 2007.
- Own production of insulated portable towers (Leiters).
- Supply of in-house manufactured products and representation of foreign manufacturers for railway infrastructure, including facilities of Georgian Railway JSC.



Product Purpose

Functional Application

Scope of Application

The insulated portable tower IGK-2 (Leiter) is intended for:

- Maintenance and repair of railway contact networks, as well as for adjustment of the contact suspension after installation.
- The fiberglass ladder-based design ensures operation in DC and AC contact networks, including live-line work.
- The use of the insulated portable tower IGK-2 allows safe execution of work on the contact network without stopping train traffic, without occupying the railway track, and without allocating a technological “window”.



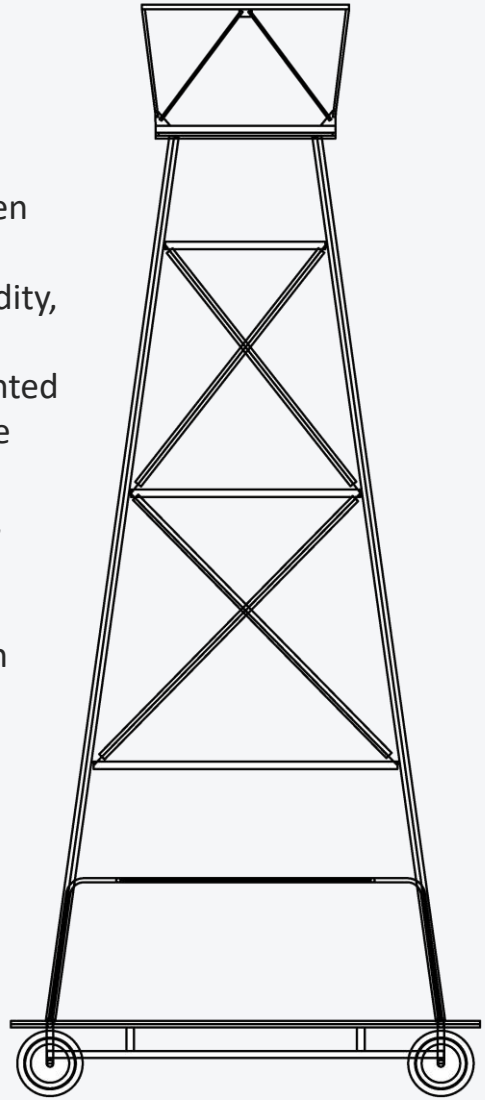
Design

General Arrangement

Structural Elements

In the design of the insulated portable tower IGK-2 (Leiter):

- Structural shortcomings related to stability and safety typical of standard insulated towers available on the market have been taken into account and eliminated.
- Reinforced structural solutions have been applied to increase rigidity, stability, and operational safety.
- The tower consists of two interconnected fiberglass ladders mounted on a wheeled trolley frame, allowing manual movement along the rails.
- An upper working platform with protective guardrails is provided, designed for simultaneous work of two operators.
- The use of profiled insulating fiberglass in ladders, as well as in inclined and horizontal members, ensures high structural strength and stable insulation characteristics during operation.

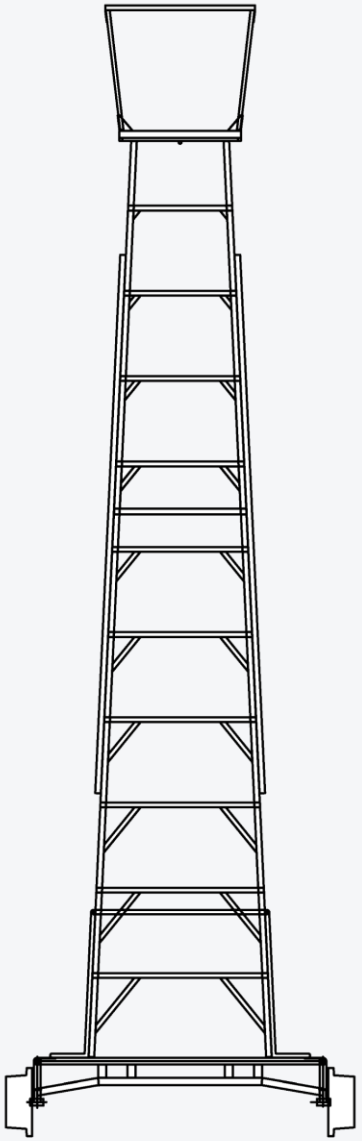


Technical Specifications

Data According to Product Passport

Main Parameters

- Distance between inner wheel flanges, mm: 1458-8
- Load capacity, not less than, kg: 300
- Height from rail head, mm: 5550
- Length, mm: 2400
- Width, mm: 1720
- Weight (without accessories), max, kg: 155
- Track gauge, mm: 1520
- Insulation class: 3.3 kV DC, 27.5 kV AC, 50 Hz
- Storage conditions: UHL-1 according to GOST 15150



Insulation and Safety

Electrical and Mechanical Protection

Safety Measures

The insulated portable tower (Leiter) is equipped with:

- Two shunting poles with insulated handles designed for potential equalization of the contact network with the trolley (working platform) before starting work, during operation, and after completion.
- The wheel system of the tower, except for one wheel, is electrically insulated from the frame, preventing short-circuiting of track circuits for signaling, interlocking, and block systems.
- The non-insulated wheel provides grounding of the lower part of the tower to the traction rail.
- The applied structural solutions ensure compliance with electrical safety requirements during live-line operations.



Working Platform

Personnel Working Conditions

Workplace

The working platform of the insulated portable tower IGK-2 (Leiter) is designed for:

- Safe execution of work on the contact network and allows simultaneous presence of no more than two workers.
- The platform is equipped with protective guardrails ensuring stable positioning of personnel at height.
- The design provides secure attachment of a safety harness using a carabiner.
- This increases safety during ascent, descent, and performance of work.
- Operation of the working platform is permitted only in compliance with electrical safety requirements and operating rules.



Delivery Set

According to Product Passport

Composition

No	Product name	Qty
1	Fiberglass ladder (steps)	2
2	Shunting belt (insulator)	1
3	Inclined strut 1.50 m (structural element)	2
4	Inclined strut 1.70 m (structural element)	2
5	Horizontal strut 0.90 m (structural element)	2
6	Horizontal strut 1.20 m (structural element)	2
7	Horizontal strut 1.50 m (structural element)	2
8	Diagonal horizontal strut 1.10 m (structural element)	1
9	Suspended fiberglass ladder (3 meters)	1
10	Shunting pole (portable)	2
11	Working platform	1
12	Insulated wheel	3
13	Non-insulated wheel	1
14	Frame	1
15	Shunting frame	2



Advantages and Field Operation

Key Distinctions and Confirmed Operational Experience

Advantages of IGK-2 Leiter

The insulated portable tower IGK-2 (Leiter):

- Features high stability and structural strength, ensuring safe performance of work on the contact network.
- Reliable dielectric properties and high-quality materials guarantee stable insulation characteristics during operation.
- The structure is designed for long service life and intensive use in railway infrastructure conditions.
- Operational practice confirms the quality and reliability of the product: the IGK-2 tower is successfully used at **Georgian Railway JSC** facilities, where its safety and stability have been confirmed under real operating conditions.



Conclusion

Technically Verified Solution

Summary

The insulated portable tower IGK-2 (Leiter)

- Complies with the requirements of applicable regulatory and operational documents used for work on railway contact networks.
- The design of the product is intended for professional use in active railway infrastructure under DC and AC live-line conditions.
- The structural solutions of IGK-2 ensure increased reliability and stability compared to standard insulated towers.
- Operation of the tower is permitted subject to compliance with established safety rules and requirements.



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