

ELECTRICAL MATERIAL LIST SAMPLE Academic PDF

electrical material list sample is an essential component for any electrical project, whether it's a residential, commercial, or industrial installation. A well-prepared electrical material list ensures that all necessary components are accounted for, facilitates efficient procurement, and minimizes project delays. In this comprehensive guide, we will explore the importance of an electrical material list, provide a detailed sample, and offer tips on creating an accurate and organized list to streamline your electrical projects.

Understanding the Importance of an Electrical Material List

An electrical material list serves as a blueprint that details every component required for an electrical installation. It functions as a comprehensive inventory, helping project managers, electricians, and procurement teams to:

- Ensure completeness: Avoid missing critical components during installation.
- Control costs: Track quantities and specifications to prevent over-purchasing.
- Streamline procurement: Facilitate quick and accurate ordering from suppliers.
- Improve project planning: Schedule delivery timelines and labor efficiently.
- Maintain safety standards: Use specified materials that meet regulatory codes.

Creating an accurate electrical material list is fundamental to the success of any electrical project, supporting smooth workflow and compliance with safety standards.

Components of an Electrical Material List

An effective electrical material list typically includes the following components:

- Item Description: Clear identification of each part.
- Specification/Model Number: Exact details to avoid ambiguity.
- Quantity Needed: Number of units required.
- Unit of Measure: Pieces, meters, feet, etc.
- Unit Price: Cost per unit.
- Total Cost: Calculated as quantity multiplied by unit price.
- Remarks/Notes: Additional information such as voltage ratings, standards, or special features.

Including these elements ensures clarity and facilitates effective communication between all stakeholders.

Sample Electrical Material List

Below is a detailed sample of an electrical material list for a typical residential electrical installation. This sample provides a clear overview of commonly used materials and their specifications.

Lighting Fixtures

- **LED Ceiling Lights**
 - Model: LED-CL-12W
 - Quantity: 10 pcs
 - Remarks: Suitable for living room and bedrooms
- **Wall Sconces**
 - Model: WS-LED-8W
 - Quantity: 4 pcs
 - Remarks: For hallways and accent lighting

Switches and Sockets

- **Single Pole Switch**
 - Model: SP-10A
 - Quantity: 12 pcs
- **Double Socket Outlets**
 - Model: DS-15A
 - Quantity: 8 pcs

Wiring and Cables

- **NYM Cable 3x1.5mm²**

- Length: 50 meters
- Remarks: For lighting and socket circuits

- **Earth Cable 1.5mm²**

- Length: 50 meters

Distribution Boards and Accessories

- **Distribution Box**

- Model: DB-100
- Quantity: 1 pc

- **Circuit Breakers**

- Model: CB-16A
- Quantity: 4 pcs

Other Materials

- Conduit Pipes (PVC, 20mm diameter) ? 30 meters
- Cable Clips ? 50 pcs
- Electrical Tape ? 5 rolls
- Wire Connectors ? 20 pcs

Tips for Creating an Effective Electrical Material List

To ensure your electrical material list is accurate and comprehensive, consider the following tips:

1. Conduct a Detailed Site Inspection

Before compiling your list, thoroughly inspect the site to identify specific requirements, constraints, and existing infrastructure.

2. Refer to Electrical Standards and Codes

Ensure all materials meet local electrical standards, safety regulations, and manufacturer specifications.

3. Use Standardized Item Descriptions

Adopt consistent terminology for easy understanding and procurement.

4. Estimate Quantities Carefully

Include a buffer quantity (around 10%) to accommodate unforeseen needs or errors.

5. Include Technical Specifications

Add details such as voltage ratings, current capacity, and standards compliance for each component.

6. Collaborate with Suppliers and Vendors

Consult with suppliers to confirm lead times, availability, and prices.

7. Organize the List Clearly

Use tables, categories, and headings to facilitate quick reference and reduce errors.

8. Keep Digital and Hard Copies

Maintain both formats for easy updates and accessibility during procurement and installation.

Conclusion

An electrical material list sample serves as a vital tool for ensuring the success of any electrical project. It streamlines procurement, promotes safety, and ensures that all necessary components are available at the right time and in the right quantities. By understanding the key components of an effective list and following best practices in its creation, electrical professionals can significantly improve project efficiency and quality. Remember, a well-prepared electrical material list not only saves time and money but also enhances safety and compliance, making it a cornerstone of professional electrical work.

Additional Resources

- Electrical Standards and Regulations: Familiarize yourself with local electrical codes.
- Electrical Material Suppliers: Build relationships with reputable vendors.
- Project Management Tools: Use software like Excel, Google Sheets, or specialized apps to organize your list.

Keywords: electrical material list sample, electrical components list, electrical project planning, electrical procurement list, electrical materials for residential, electrical wiring list, electrical installation components, electrical list template, electrical project checklist, electrical material specifications

Electrical Material List Sample: A Comprehensive Review for Engineers and Project Managers

In the realm of electrical engineering and construction, meticulous planning and precise documentation are paramount to ensure the success of any project. Among the foundational elements of this planning process is the development of an electrical material list sample—a detailed inventory that enumerates all electrical components required for a given project. This document not only facilitates procurement and budgeting but also serves as a blueprint for installation, maintenance, and future upgrades. This article offers an in-depth exploration of what constitutes an effective electrical material list sample, its significance, typical contents, best practices for creation, and how it influences project execution.

Understanding the Importance of an Electrical Material List Sample

An electrical material list sample acts as a roadmap for project stakeholders, including engineers, procurement teams, contractors, and inspectors. Its primary purposes include:

- Ensuring Completeness: Identifies all necessary electrical components, reducing the risk of missing items during procurement or installation.
- Cost Estimation: Facilitates accurate budgeting by itemizing quantities and specifications.
- Streamlining Procurement: Provides clear specifications for purchasing decisions, minimizing delays.
- Enhancing Communication: Serves as a common reference point among diverse teams, fostering clarity.
- Supporting Quality Control: Ensures compliance with standards and specifications through detailed documentation.

Given these roles, the precision and comprehensiveness of an electrical material list sample directly impact project timelines, costs, and safety compliance.

Core Components of an Electrical Material List Sample

A well-structured electrical material list typically contains several critical sections, each serving a specific purpose. Below is an outline of common components included:

1. Item Description

- Clear, concise identification of the component (e.g., "10k Ω Resistor," "Conduit, 3/4 inch").
- May include standardized codes or part numbers for reference.

2. Specification or Model Number

- Manufacturer details, model numbers, or standard specifications (e.g., UL listed, IEC standards).

3. Quantity

- The number of units required for the project.

4. Unit of Measure

- Common units such as pieces, meters, feet, or sets.

5. Material Size/Rating

- Specifications like wire gauge, voltage rating, current capacity, or insulation type.

6. Material Type

- Classification (e.g., copper wire, PVC conduit, LED fixture).

7. Location/Placement

- Specific areas or circuits where the component will be installed.

8. Remarks or Notes

- Additional instructions, special handling, or standards compliance notes.

Common Items Featured in an Electrical Material List Sample

The following list provides an overview of typical electrical components documented in a comprehensive material list:

- Wiring and Cables
 - Types: THHN, NM-B, Armored Cable
 - Sizes: 14 AWG, 12 AWG, 10 AWG
 - Ratings: Voltage, insulation type
- Conduits and Fittings
 - Types: PVC, EMT, rigid metal conduit
 - Fittings: couplings, connectors, elbows
- Switches and Breakers
 - Types: Single-pole, double-pole, GFCI, AFCI
 - Ratings: 15A, 20A, 30A
- Lighting Fixtures
 - Types: LED, fluorescent, incandescent
 - Mounting: ceiling, wall, recessed
- Distribution Boards and Panels
 - Main panels, sub-panels
 - Circuit breakers, bus bars
- Connectors and Terminals
 - Wire nuts, terminal blocks, lugs
- Accessories
 - Junction boxes, outlet boxes, conduit clamps

- Grounding and Bonding Materials
- Ground rods, grounding wires, clamps

This list varies depending on project scope?residential, commercial, industrial?and specific requirements.

Best Practices in Creating an Electrical Material List Sample

Developing an effective electrical material list sample demands attention to detail and adherence to industry standards. Below are best practices to ensure accuracy and utility:

1. Use Standardized Codes and Nomenclature

- Employ industry-accepted standards such as NEC (National Electrical Code), IEC, or local codes.
- Utilize standard abbreviations and part numbers to prevent ambiguity.

2. Specify Precise Quantities and Specifications

- Avoid estimations; double-check calculations for total lengths, numbers, and ratings.
- Include tolerances and special features (e.g., UV-rated conduit).

3. Incorporate Detailed Drawings and Schematics

- Reference drawings and schematics that correlate with the list items.
- Cross-verify components with design documents.

4. Categorize Items Systematically

- Group related items (e.g., all wiring, lighting fixtures) for easier review.
- Use consistent formatting for clarity.

5. Validate Against Standards and Regulations

- Ensure all components meet local electrical codes and safety standards.
- Include certifications and compliance documentation.

6. Collaborate Across Teams

- Involve procurement, installation teams, and inspectors during development.
- Gather feedback to refine the list.

7. Maintain Version Control

- Track revisions, especially when project scope changes.
- Keep records for audit purposes.

Sample Electrical Material List Structure

Below is a simplified example illustrating the typical structure of an electrical material list sample:

Item No	Description	Specification/Model	Quantity	Unit	Size/Rating	Location	Remarks
1	Main Service Entrance Cable	THHN, 600V, 100ft	1	Roll	10 AWG	Main Panel Room	UV-rated; suitable for outdoor
2	Circuit Breaker Panel	Square D QO, 200A	1	Piece	N/A	Utility Room	Main distribution board
3	Lighting Fixture, LED Ceiling	Model XYZ123	20	Piece	15W, 120V	Living Areas	Includes mounting hardware
4	Conduit, PVC, 3/4 inch	Schedule 40	50	Feet	N/A	Throughout Building	For wiring runs
5	Switch, Single-Pole GFCI	Leviton, Model 5262	15	Piece	N/A	Kitchens, Bathrooms	Weather-resistant

This sample emphasizes clarity, standardization, and completeness, serving as a template for more complex projects.

Impact of a Well-Prepared Electrical Material List Sample on Project Success

A comprehensive and accurate electrical material list sample can significantly influence various facets of project execution:

- **Cost Control:** Precise quantities prevent over-ordering and under-ordering, reducing waste and delays.
- **Time Efficiency:** Clear specifications expedite procurement and installation phases.
- **Quality Assurance:** Ensures components comply with safety standards and project specifications.
- **Risk Mitigation:** Detects potential issues early, such as incompatible components or missing items.
- **Documentation and Traceability:** Provides a record for future maintenance, troubleshooting, or upgrades.

In complex projects, particularly those involving multiple trades or large-scale industrial installations, the importance of a detailed material list cannot be overstated.

Conclusion: The Value of a Detailed Electrical Material List Sample

The development of an electrical material list sample is a critical step in the planning and execution of electrical projects. It serves as a central document that encapsulates all necessary components, specifications, and logistical details, fostering seamless coordination among project teams.

To maximize its effectiveness, professionals should adhere to industry standards, maintain clarity and consistency, and involve relevant stakeholders in its creation. When executed diligently, a well-prepared electrical material list significantly enhances project efficiency, safety, and compliance, ultimately contributing to the successful completion of electrical installations that are reliable, safe, and cost-effective.

As the industry evolves with new technologies and standards, so too must the approach to documentation. Continuous refinement and adaptation of electrical material list samples will ensure they remain valuable tools in the ever-complex landscape of electrical engineering projects.

Question What should be included in a typical electrical material list sample? A typical electrical material list sample includes items such as cables, wires, switches, circuit breakers, connectors, conduits, sockets, and other essential electrical components required for installation or maintenance projects. **Answer** How can I customize an electrical material list sample for my project? You can customize an electrical material list sample by adding specific quantities, specifications, part numbers, and descriptions tailored to your project's requirements, ensuring all necessary materials are accurately accounted for. Why is it important to have a detailed electrical material list sample? A detailed electrical material list sample helps in accurate budgeting, procurement, and planning,

reducing delays and errors during the installation process by ensuring all required components are identified beforehand. Are there any standard templates available for electrical material list samples? Yes, many industry resources and software tools offer standard templates for electrical material lists, which can be customized to suit specific project needs and ensure consistency and completeness. What are common mistakes to avoid when preparing an electrical material list sample? Common mistakes include omitting critical components, using incorrect specifications, not updating quantities based on project changes, and failing to include detailed descriptions or part numbers, which can lead to procurement issues. How does an electrical material list sample facilitate project management? It provides a clear overview of required materials, helping in inventory management, timely procurement, cost estimation, and coordination among team members, thereby streamlining project execution.

Related keywords: electrical parts list, wiring materials, electrical components catalog, electrical inventory sample, electrical supply list, electrical equipment list, electrical project materials, electrical list template, electrical parts sample, electrical procurement list

BL theraja electrical

BL Theraja Electrical is a renowned name in the field of electrical engineering and electrical equipment supply. With a rich legacy of delivering quality products and expert services, BL Theraja Electrical has established itself as a trusted partner for both residential and commercial electrical needs. Whether you're seeking reliable electrical components, maintenance services, or electrical consultancy, BL Theraja Electrical offers comprehensive solutions tailored to meet diverse requirements. This article delves into the various aspects of BL Theraja Electrical, exploring its history, product offerings, services, and why it remains a preferred choice for clients across the region.

Overview of BL Theraja Electrical

History and Background

BL Theraja Electrical has a longstanding reputation in the electrical industry, built on decades of experience and commitment to quality. Founded with the vision of providing dependable electrical solutions, the company has grown steadily, expanding its product range and service network. Its foundation is rooted in the principles of innovation, customer satisfaction, and technical excellence.

Mission and Vision

The company's mission revolves around delivering premium electrical products and services that enhance safety, efficiency, and sustainability. Its vision is to become the leading electrical solutions provider in the region, recognized for integrity, reliability, and technological advancement.

Product Range Offered by BL Theraja Electrical

Electrical Switchgear and Panels

BL Theraja Electrical supplies a wide variety of electrical switchgear and control panels designed for industrial, commercial, and residential applications. These include:

- Distribution Boards
- Motor Control Centers
- Automatic Transfer Switches
- Protection Devices

These products are manufactured using high-grade materials ensuring durability and safety.

Cabling and Wires

A critical component of any electrical system, cables and wires from BL Theraja Electrical are known for their excellent conductivity and safety standards. The company offers:

- Power Cables
- Control Cables
- Low Voltage Wires
- High Voltage Cables

Electrical Accessories

To complement their main product lines, BL Theraja Electrical also offers a range of accessories including:

- Connectors and Terminals
- Relays and Switches
- Fuses and Circuit Breakers
- Lighting Fixtures

Automation and Control Equipment

Emphasizing modern solutions, the company provides automation equipment such as:

- PLC Systems
- SCADA Systems
- Sensors and Actuators

These products help optimize operations and improve energy efficiency.

Services Provided by BL Theraja Electrical

Electrical System Design and Consultation

BL Theraja Electrical offers expert consultation services to help clients design efficient and safe electrical systems. Their team of experienced engineers assesses project requirements and provides customized solutions aligned with industry standards.

Installation and Commissioning

The company ensures professional installation of electrical equipment, minimizing downtime and ensuring safety compliance. Post-installation, they handle the commissioning process to verify system performance.

Maintenance and Repair

Regular maintenance is essential to prolong the lifespan of electrical systems. BL Theraja Electrical provides scheduled maintenance, troubleshooting, and repair services to keep systems running smoothly and prevent unexpected failures.

Supply Chain and Logistics

With a robust supply chain network, the company ensures timely delivery of products, even for large-scale projects. Their logistics team manages inventory, transportation, and procurement efficiently.

Why Choose BL Theraja Electrical?

Quality Assurance

All products supplied by BL Theraja Electrical adhere to strict quality standards, often certified by relevant authorities. They prioritize safety and durability, ensuring long-term performance.

Technical Expertise

Their team comprises qualified engineers and technical experts who provide valuable insights and support, making complex electrical projects manageable and successful.

Customer-Centric Approach

BL Theraja Electrical values customer satisfaction above all. They offer personalized solutions, transparent pricing, and dedicated after-sales support.

Competitive Pricing

Despite offering premium products and services, the company maintains competitive pricing, making advanced electrical solutions accessible to a broader clientele.

Industries Served by BL Theraja Electrical

Residential Sector

Providing safe and efficient electrical solutions for homes, apartments, and housing complexes, ensuring compliance with safety standards.

Commercial Sector

Supplying and installing electrical systems for offices, shopping malls, hotels, and other commercial establishments.

Industrial Sector

Supporting manufacturing units, factories, and processing plants with heavy-duty electrical equipment and automation systems to optimize productivity.

Infrastructure Projects

Participating in large-scale infrastructure projects such as airports, metro rail systems, and bridges, providing specialized electrical solutions.

Key Benefits of Partnering with BL Theraja Electrical

- **Reliability:** Proven track record of delivering consistent quality products and services.
- **Expertise:** Skilled professionals ensuring precise installation and maintenance.
- **Customization:** Tailored solutions to meet unique project requirements.
- **Compliance:** Adherence to safety and industry standards.
- **Innovation:** Incorporation of the latest technology trends in electrical solutions.

How to Contact BL Theraja Electrical

For inquiries, quotations, or service requests, customers can reach out to BL Theraja Electrical through:

- Official website
- Phone support
- Email correspondence
- Visit their regional offices or showrooms

Their customer service team is dedicated to providing prompt and comprehensive assistance.

Conclusion

In a rapidly evolving electrical industry, BL Theraja Electrical stands out as a reliable partner committed to quality, safety, and innovation. With a diverse product portfolio, expert services, and a customer-first approach, they cater to a wide range of electrical needs across various sectors. Whether you are designing a new electrical system, upgrading existing infrastructure, or seeking maintenance support, BL Theraja Electrical offers solutions that ensure efficiency, safety, and longevity. Choosing BL Theraja Electrical means opting for a trusted name that prioritizes your safety and operational excellence in every project.

Keywords for SEO Optimization: BL Theraja Electrical, electrical products, electrical services, electrical panels, switchgear, cables, wiring, automation systems, electrical maintenance, electrical solutions, electrical industry, trusted electrical supplier

BL Theraja Electrical: A Comprehensive Guide to Understanding and Mastering the Basics of Electrical Engineering

Electrical engineering is a vast and dynamic field that forms the backbone of modern technology and infrastructure. Among the many names associated with the study and development of electrical systems, BL Theraja Electrical stands out as a significant contributor to technical education and knowledge dissemination. Whether you're a student venturing into electrical engineering or a professional seeking to deepen your understanding, this guide will walk you through the essentials

of BL Theraja Electrical, its importance, core concepts, and how to leverage this knowledge effectively.

Introduction to BL Theraja and Its Contributions to Electrical Engineering

Who is BL Theraja?

Bishan Lal Theraja was a renowned Indian electrical engineer, academician, and author whose works have shaped the curriculum of electrical engineering in India and beyond. His textbooks and reference materials are considered authoritative sources, especially for students preparing for competitive exams, engineering courses, and technical certifications.

The Significance of BL Theraja's Work

Theraja's publications, especially the Electrical Technology and Basic Electrical Engineering series, are widely regarded for their clarity, comprehensive coverage, and practical approach. These texts have served as foundational learning resources, bridging the gap between theoretical concepts and real-world applications.

Core Concepts in BL Theraja Electrical

Understanding BL Theraja Electrical involves delving into fundamental electrical principles, components, and systems. Below are the essential topics that form the foundation of his teachings.

- Electrical Measurements and Instruments

Accurate measurement is critical in electrical engineering. Key instruments include:

- Voltmeters and ammeters for voltage and current measurement
- Multimeters for combined measurements
- Wattmeters for power measurement
- Oscilloscopes for waveform analysis

Understanding how to select, operate, and calibrate these instruments is vital.

- Electrical Circuits and Laws

Fundamental laws underpin all electrical analysis:

- Ohm's Law: $\text{Voltage} = \text{Current} \times \text{Resistance}$
- Kirchhoff's Laws:
- Voltage Law (KVL)
- Current Law (KCL)

Mastery of circuit analysis involves analyzing series and parallel circuits, as well as complex networks.

- Magnetic Circuits and Electromagnetism

Electromagnetism forms the basis of transformers, motors, and generators:

- Magnetic flux and flux density
- Magnetic hysteresis
- Magnetic circuit analysis
- Electromagnetic induction

- Electrical Machines

Key types include:

- Transformers: Operation, efficiency, and regulation
- Generators: Principles and types
- Motors: Types such as DC motors, induction motors, and synchronous motors
- Power Systems and Distribution

Understanding how electrical power is generated, transmitted, and distributed:

- Power generation methods
- Transmission lines and their parameters
- Distribution systems and protective devices
- Electrical Accessories and Protective Devices

Including:

- Circuit breakers
- Fuses
- Relays
- Switchgear

Proper selection and maintenance of these devices ensure safety and reliability.

How to Approach Learning BL Theraja Electrical

Step 1: Study the Textbooks Systematically

Theraja's textbooks are structured to build concepts progressively. Start with the basics, ensuring a solid grasp of fundamental principles before moving to advanced topics.

Step 2: Practice Numerical Problems

Electrical engineering relies heavily on problem-solving. Regular practice helps in understanding concepts and preparing for exams.

Step 3: Use Diagrams and Illustrations

Visual aids deepen understanding. Draw circuit diagrams, magnetic flux paths, and waveforms to reinforce learning.

Step 4: Relate Theory to Practical Applications

Whenever possible, relate theoretical concepts to real-world equipment and scenarios. This contextual understanding improves retention.

Step 5: Take Mock Tests and Quizzes

Simulate exam conditions to assess your knowledge and identify areas needing improvement.

Practical Applications of BL Theraja Electrical Knowledge

The principles outlined in BL Theraja Electrical are applicable across various industries and sectors:

- Electrical Maintenance: Diagnosing faults in electrical systems
- Power Generation and Transmission: Designing efficient power grids
- Automation and Control: Implementing control systems in manufacturing
- Renewable Energy: Integrating solar and wind power systems
- Electronics Design: Developing circuits for consumer devices

Understanding these applications can guide career choices and specialization.

Tips for Mastering BL Theraja Electrical

- Consistent Study Schedule: Allocate regular time for study and revision.
- Hands-on Experience: Engage with practical labs and workshops.
- Stay Updated: Follow recent advancements in electrical technology.
- Join Study Groups: Collaborative learning enhances understanding.
- Seek Clarification: Don't hesitate to consult instructors or experts when concepts are unclear.

Resources and Further Reading

While BL Theraja Electrical textbooks are comprehensive, supplement your learning with:

- Online tutorials and video lectures
- Industry journals and technical papers
- Simulation software like MATLAB or Proteus
- Industry certifications (like IEEE or IEC standards)

Final Thoughts

BL Theraja Electrical serves as a cornerstone for anyone interested in the field of electrical engineering. Its systematic approach to teaching complex concepts makes the subject accessible and engaging. Mastery of these fundamentals not only paves the way for academic success but also prepares individuals for practical challenges in the electrical industry. By following a disciplined study plan, practicing regularly, and applying concepts practically, learners can harness the power of BL Theraja Electrical to build a rewarding career in this ever-evolving field.

Embark on your electrical engineering journey today with the insights and foundations laid by BL Theraja, and power your future with knowledge and innovation!

Question What services does BL Theraja Electrical offer? BL Theraja Electrical provides a wide range of electrical services including residential, commercial, and industrial wiring, electrical

repairs, installations, and maintenance to ensure safe and efficient electrical systems. Is BL Theraja Electrical certified and insured? Yes, BL Theraja Electrical is certified and fully insured, ensuring quality workmanship and protection for their clients' properties during all electrical projects. How can I contact BL Theraja Electrical for a service request? You can contact BL Theraja Electrical through their official website, phone number, or email. They often also offer online booking options for consultations and appointments. What areas does BL Theraja Electrical serve? BL Theraja Electrical primarily serves [insert specific region or city], including surrounding suburbs, offering prompt and reliable electrical services to local residents and businesses. Are there any recent reviews or testimonials about BL Theraja Electrical? Yes, many clients have praised BL Theraja Electrical for their professionalism, timely service, and quality work. You can find reviews on local directories and their social media pages. Does BL Theraja Electrical provide emergency electrical services? Yes, BL Theraja Electrical offers 24/7 emergency electrical services to handle urgent issues such as power outages, electrical faults, and safety hazards promptly. What sets BL Theraja Electrical apart from other electrical service providers? BL Theraja Electrical stands out due to their experienced technicians, commitment to safety standards, transparent pricing, and customer-centric approach ensuring high-quality and reliable electrical solutions.

Related keywords: electrical supplies, electrical equipment, electrical components, electrical store, electrical parts, electrical accessories, electrical wholesalers, electrical repair, electrical installer, electrical supplier

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