

mobilgear 600 xp 150 equivalent

mobilgear 600 xp 150 equivalent is a critical search query for industries relying on high-performance industrial gear oils. Understanding what constitutes a suitable Mobilgear 600 XP 150 equivalent is paramount for maintaining equipment longevity, optimizing operational efficiency, and preventing costly downtime. This article delves into the key characteristics, specifications, and performance aspects that define a robust alternative to Mobilgear 600 XP 150. We will explore the essential properties of this advanced gear lubricant, discuss various factors to consider when selecting an equivalent, and highlight common applications where such oils are indispensable. By the end of this comprehensive guide, you will be equipped with the knowledge to confidently identify and source a Mobilgear 600 XP 150 equivalent that meets your specific industrial demands.

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The Importance of Choosing a Mobilgear 600 XP 150 Equivalent

Industrial gearboxes are the workhorses of many manufacturing and processing operations. They are designed to operate under extreme pressures, high temperatures, and demanding environmental conditions. The lubricant within these gearboxes is not merely a fluid; it's a critical component that dictates the lifespan and performance of the entire system. Mobilgear 600 XP 150 is a highly regarded industrial gear oil known for its exceptional protection against wear, oxidation, and foaming, even in the most severe applications. However, availability, cost, or specific formulation needs can sometimes necessitate exploring alternative products. This is where identifying a reliable Mobilgear 600 XP 150 equivalent becomes crucial. Selecting the right substitute ensures that the high level of protection and operational efficiency provided by the original product is maintained, preventing potential failures and optimizing productivity.

The decision to seek a Mobilgear 600 XP 150 equivalent is often driven by a need for flexibility within supply chains or to explore options that might offer competitive pricing without compromising on performance. Modern industrial lubricants are engineered with sophisticated additive packages designed to meet stringent industry standards. Therefore, a true equivalent must not only match the base oil viscosity but also replicate the critical protective and performance attributes. This guide aims to demystify the process of finding such an equivalent, empowering users to make informed decisions for their critical machinery.

Understanding Mobilgear 600 XP 150: Key Properties

Mobilgear 600 XP 150 is a premium industrial gear lubricant formulated to provide exceptional protection for enclosed gear systems operating under severe conditions. Its composition includes high-quality base stocks and a robust additive package designed to deliver superior performance across a wide range of operating parameters. Key to its efficacy are its anti-wear properties, which are crucial

for preventing micropitting and scuffing on gear teeth, especially under heavy loads. It also boasts excellent oxidation stability, resisting oil degradation and sludge formation even at elevated temperatures, which extends lubricant life and reduces maintenance intervals.

Furthermore, Mobilgear 600 XP 150 exhibits superior rust and corrosion protection, safeguarding internal components from moisture and contaminants. Its demulsibility ensures that it can effectively separate water, preventing lubrication breakdown. The oil's excellent foam control is also vital, as excessive foaming can lead to inadequate lubrication and increased wear. The ISO VG 150 viscosity grade signifies its suitability for applications requiring a medium-viscosity gear oil, providing the right balance of film strength and flow characteristics for efficient operation.

What Makes a Mobilgear 600 XP 150 Equivalent?

Identifying a Mobilgear 600 XP 150 equivalent involves more than simply matching the viscosity grade. A true equivalent must demonstrate a comparable level of performance in critical areas such as wear protection, oxidation resistance, thermal stability, and corrosion inhibition. This is achieved through similar base oil chemistries and, importantly, equivalent or superior additive technology. The additive package is what differentiates high-performance gear oils, providing the specific functionalities required for extreme pressure (EP) conditions, preventing the breakdown of the oil film under intense stress.

A suitable equivalent will typically meet or exceed the same industry specifications and OEM approvals that Mobilgear 600 XP 150 adheres to. This includes standards set by bodies like the American Gear Manufacturers Association (AGMA) and International Organization for Standardization (ISO).

Manufacturers of equivalent products will often publish data sheets that directly compare their product's performance against recognized benchmarks, including leading brands like Mobilgear. When assessing an equivalent, it is essential to look for products that explicitly state their compatibility and performance against the specific challenges that Mobilgear 600 XP 150 is designed to address.

Essential Specifications to Match for a Mobilgear 600 XP

150 Alternative

When searching for a Mobilgear 600 XP 150 equivalent, several key specifications must be closely examined to ensure optimal performance and equipment protection. The most fundamental is the viscosity grade. Mobilgear 600 XP 150 is an ISO VG 150 oil, meaning its kinematic viscosity at 40°C typically falls within the range of 144 to 176 cSt. Any equivalent must adhere to this viscosity range to ensure correct film thickness for lubrication and efficient heat transfer.

Beyond viscosity, the additive technology is paramount. Look for lubricants that offer similar extreme pressure (EP) and anti-wear (AW) performance. This is often indicated by specific additive types, such as sulfur-phosphorus or other advanced chemistries, designed to prevent scuffing and micropitting. Oxidation and thermal stability are also critical; equivalents should demonstrate a high potential life at elevated operating temperatures, often reflected in their resistance to sludge and varnish formation. Rust and corrosion protection are equally important, especially in environments where moisture ingress is a possibility.

- ISO VG 150 viscosity grade
- Extreme Pressure (EP) and Anti-Wear (AW) additive performance
- Oxidation and thermal stability
- Rust and corrosion protection
- Demulsibility (water separability)
- Foaming characteristics

Performance Characteristics of a Suitable Equivalent

A Mobilgear 600 XP 150 equivalent must replicate the superior performance characteristics that make the original product a leader in its class. This includes an exceptional ability to protect against wear, particularly micropitting and scuffing, which are insidious forms of damage that can lead to premature gearbox failure. An equivalent should offer robust EP and AW protection, ensuring that the lubricant film can withstand the immense pressures generated between gear teeth, even under shock load conditions.

The thermal and oxidative stability of an equivalent is also a critical performance indicator. It must resist degradation at high operating temperatures, preventing the formation of sludge, varnish, and acidic by-products that can impair lubrication and corrode metal surfaces. This longevity in demanding thermal environments translates to extended oil drain intervals and reduced maintenance costs. Furthermore, a competent equivalent will exhibit excellent water separability (demulsibility), allowing any water contamination to be easily removed, thereby preventing lubrication breakdown and rust formation. Good foam control is also essential to ensure consistent lubrication and prevent cavitation.

Common Applications for Mobilgear 600 XP 150 Equivalents

The versatility of Mobilgear 600 XP 150 and its equivalents means they are employed across a broad spectrum of heavy-duty industrial applications. Any operation that relies on enclosed gearboxes operating under severe conditions, high loads, and elevated temperatures can benefit from lubricants of this caliber. Common sectors include the steel industry, where massive rolling mills and processing equipment demand exceptional gear protection. The cement industry, with its large kilns, crushers, and conveyors, also heavily utilizes such high-performance lubricants.

Other significant applications include mining operations, with their heavy-duty crushers and grinding mills. The power generation sector, particularly in facilities utilizing large turbines and generators with robust gearbox systems, also requires lubricants that can withstand continuous, demanding operation. Pulp and paper manufacturing, chemical processing plants, and heavy machinery manufacturing are further examples where the reliability and protective capabilities of a Mobilgear 600 XP 150 equivalent are indispensable for ensuring uninterrupted production and maximizing equipment lifespan.

Factors to Consider When Choosing a Mobilgear 600 XP 150 Equivalent

When selecting a Mobilgear 600 XP 150 equivalent, several factors beyond basic specifications should be carefully evaluated. Firstly, consider the specific operating environment. Is the equipment exposed to extreme temperatures, high humidity, or significant contamination? The equivalent must be formulated to withstand these specific challenges. Secondly, review the OEM recommendations for your specific gearbox model. While a product may claim equivalency, direct OEM approval or endorsement provides an additional layer of assurance.

It is also prudent to assess the reputation and track record of the lubricant manufacturer. Are they known for producing high-quality industrial lubricants with a strong commitment to research and development? Requesting detailed technical data sheets (TDS) and safety data sheets (SDS) is essential for comparing product formulations and understanding their physical and chemical properties. Finally, consider the cost-effectiveness over the lubricant's lifecycle. A slightly higher upfront cost for a superior equivalent can often lead to significant savings through reduced maintenance, extended equipment life, and fewer unplanned downtimes.

Testing and Verification of Equivalency

Verifying the equivalency of a lubricant to Mobilgear 600 XP 150 is a critical step to ensure optimal performance and prevent potential equipment damage. The most reliable method involves comparing the technical specifications provided by the lubricant manufacturer against the original product's specifications and relevant industry standards. Key parameters to scrutinize include the ISO VG viscosity grade, kinematic viscosity at various temperatures, viscosity index, flash point, pour point, and specific gravity.

Beyond these basic physical properties, delve into the performance test data. Look for results from standardized tests that measure extreme pressure (EP) and anti-wear (AW) performance, such as the Four-Ball EP and Four-Ball Wear tests. Oxidation stability, measured by the Oxidation Stability Test (e.g., RBOT or TOST), is also crucial. Rust and corrosion protection tests, along with foaming tendencies and demulsibility, should be compared. Reputable lubricant manufacturers will often provide comparative test data or explicitly state that their product meets or exceeds the performance requirements of leading products like Mobilgear 600 XP 150. In complex or critical applications, laboratory analysis of used oil samples from the original lubricant can also provide valuable insights into the performance characteristics that need to be matched by an equivalent.

Frequently Asked Questions

What is Mobilgear 600 XP 150 primarily used for, and what are its key performance benefits that drive the need for equivalents?

Mobilgear 600 XP 150 is a high-performance industrial gear oil designed for severe operating conditions, offering exceptional protection against wear, micropitting, and scuffing. Its popularity stems from its ability to extend equipment life, reduce downtime, and maintain operational efficiency in demanding applications like heavy-duty gears, bearings, and enclosed gear systems exposed to high loads and shock. The need for equivalents arises from seeking cost-effectiveness, regional availability,

or specific formulation preferences while maintaining similar levels of protection and performance.

Which industrial gear oil specifications are most commonly used to identify Mobilgear 600 XP 150 equivalents?

When looking for Mobilgear 600 XP 150 equivalents, key specifications to consider include API GL-4 and API GL-5 classifications, though Mobilgear 600 XP 150 is often considered a premium product that may exceed these basic requirements. More importantly, look for products that meet or exceed OEM (Original Equipment Manufacturer) approvals for specific gearboxes, as well as industrial standards like DIN 51517 Part 3 (CLP classification) and AGMA (American Gear Manufacturers Association) specifications for EP (Extreme Pressure) gear oils. Manufacturers' internal testing and validation data are also crucial indicators.

What are some common alternative brands or product lines that are often considered Mobilgear 600 XP 150 equivalents?

Several reputable oil manufacturers offer high-performance industrial gear oils that are often considered equivalents to Mobilgear 600 XP 150. These include products from brands such as Shell (e.g., Omala S4, Spirax S4), Chevron (e.g., Delo Gear EP), Castrol (e.g., Optigear Synthetic X), ExxonMobil's own other gear oil lines (though Mobilgear 600 XP is their flagship), and various other specialty lubricant providers. Always cross-reference the specific product's technical data sheet (TDS) against Mobilgear 600 XP 150's TDS for direct comparison of properties.

Beyond viscosity grade (ISO VG 150), what critical performance characteristics should be compared when selecting a Mobilgear 600 XP 150 equivalent?

Beyond matching the ISO VG 150 viscosity grade, crucial performance characteristics to compare include: Extreme Pressure (EP) additive performance (e.g., FZG gear test results, Timken OK Load), anti-wear properties, thermal and oxidative stability, rust and corrosion protection, demulsibility (water separation), micropitting resistance, and compatibility with seal materials. The presence and type of

extreme pressure additives are particularly important for mimicking the high-performance capabilities of Mobilgear 600 XP 150.

How can I verify if a potential equivalent product will perform as well as Mobilgear 600 XP 150 in my specific application?

To verify performance, the most reliable method is to consult the Technical Data Sheets (TDS) of both Mobilgear 600 XP 150 and the potential equivalent. Compare specific test results like FZG wear stages, micropitting protection, thermal stability ratings, and viscosity index. Additionally, check for OEM approvals that match or exceed your equipment's requirements. If possible, consult with the technical support departments of both lubricant manufacturers for guidance, and consider conducting field trials if the application is critical and high-risk.

Additional Resources

Here are 9 book titles related to Mobilgear 600 XP 150 equivalent, with descriptions:

1. Industrial Lubricant Compendium: Performance Fluids for Heavy Machinery

This comprehensive volume delves into the critical role of lubricants in industrial settings, particularly for high-pressure, high-temperature environments like those requiring Mobilgear 600 XP 150. It explores the fundamental chemistry of gear oils, additive packages that enhance extreme pressure (EP) and anti-wear properties, and the methodologies for selecting the optimal lubricant for specific applications. Readers will gain an in-depth understanding of how these advanced formulations ensure equipment longevity and operational efficiency.

2. Gearbox Dynamics and Lubrication Strategies

This book focuses on the intricate relationship between mechanical gearbox operation and effective lubrication. It examines the stresses and strains experienced by gear teeth under load, the generation of heat, and the prevention of wear. The text provides detailed insights into how lubricants with EP additives, like those found in Mobilgear 600 XP 150 equivalents, mitigate these challenges, leading to improved power transmission and reduced maintenance.

3. Advanced Tribology for Enhanced Equipment Reliability

Tribology, the science of friction, wear, and lubrication, is at the heart of this insightful book. It explores cutting-edge research and practical applications in minimizing energy loss and extending the lifespan of industrial components. The book highlights the specific tribological characteristics of high-performance gear oils, discussing how they form protective films under extreme conditions and prevent catastrophic failures, making it highly relevant to understanding Mobilgear 600 XP 150.

4. Extreme Pressure Lubricants: Formulation and Application Guide

This specialized guide offers a deep dive into the world of extreme pressure (EP) lubricants, the very category to which Mobilgear 600 XP 150 belongs. It covers the chemistry behind EP additives, how they react with metal surfaces under stress to form protective layers, and the impact of different additive chemistries on performance. The book also provides practical advice on selecting and applying EP lubricants in various industrial sectors, from mining to manufacturing.

5. Fluid Power Systems and Lubricant Integrity

Focusing on the synergy between fluid power systems and the lubricants that keep them running, this book addresses the unique demands placed on lubricants in such machinery. It discusses the importance of thermal stability, oxidation resistance, and shear stability in high-pressure hydraulic and gear systems. The text explores how lubricants like Mobilgear 600 XP 150 are engineered to withstand the rigorous operating conditions within these complex systems, ensuring consistent performance and preventing contamination.

6. The Science of Gear Oil: From Base Stock to Performance Additives

This foundational text breaks down the complex composition of modern gear oils, starting with the selection of appropriate base stocks and progressing to the sophisticated additive packages that define their performance. It meticulously explains the function of various additives, including those responsible for extreme pressure protection, anti-wear properties, and viscosity modification, as found in lubricants equivalent to Mobilgear 600 XP 150. Understanding these components is crucial for appreciating the efficacy of high-performance gear oils.

7. Industrial Gearbox Maintenance and Lubricant Management

This practical handbook provides essential guidance for maintaining industrial gearboxes and optimizing lubricant management programs. It covers common failure modes, troubleshooting techniques, and the critical role of lubricant selection in preventing these issues. The book emphasizes the importance of using lubricants with appropriate specifications, like those found in Mobilgear 600 XP 150, and outlines best practices for lubricant analysis and change intervals to ensure peak operational performance.

8. Understanding Viscosity and Lubricant Performance for Heavy-Duty Applications

This volume thoroughly explores the concept of viscosity and its profound impact on lubricant performance, particularly in demanding industrial applications. It details how viscosity grades, such as the 150 in Mobilgear 600 XP 150, are critical for providing adequate film strength under various operating temperatures and pressures. The book also discusses how other performance characteristics are intertwined with viscosity to ensure optimal lubrication and protection.

9. Machinery Lubrication: Principles and Practice for the Industrial Engineer

Designed for industrial engineers, this book offers a comprehensive overview of lubrication principles and their practical application in a wide range of machinery. It covers topics such as lubricant types, selection criteria, storage, handling, and the importance of proper lubrication scheduling. The text underscores the need for high-quality, specialized lubricants, like those in the Mobilgear 600 XP 150 class, to meet the rigorous demands of modern industrial equipment and maximize operational efficiency.

Mobilgear 600 Xp 150 Equivalent

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Mobilgear 600 XP 150 Equivalent: The Ultimate Guide to Finding the Right Gear Oil

Are you struggling to find the right gear oil for your machinery? Tired of sifting through confusing technical specifications and fearing costly equipment damage from using the wrong lubricant?

Finding a suitable replacement for Mobilgear 600 XP 150 can be a daunting task, leading to downtime, unexpected repairs, and wasted resources. This ebook cuts through the jargon and provides the clear, concise information you need to make informed decisions.

This ebook, "Mobilgear 600 XP 150: Finding the Perfect Equivalent," will guide you through the process, ensuring you select the best possible replacement for your specific needs.

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Mobilgear 600 XP 150 Equivalent: Finding the Perfect Replacement

Introduction: Understanding the Importance of Gear Oil Selection

Choosing the correct gear oil is paramount for the longevity and efficiency of your machinery. Gear oil doesn't just lubricate; it also cools, cleans, and protects against wear and corrosion. Using the wrong oil can lead to premature gear failure, costly repairs, and significant downtime. Mobilgear 600 XP 150 is a high-performance gear oil known for its excellent extreme pressure (EP) properties and its ability to handle heavy loads. However, finding a readily available and cost-effective equivalent is often a challenge. This guide aims to simplify the process, providing you with the knowledge to make an informed decision.

Chapter 1: Deciphering Mobilgear 600 XP 150 Specifications: A Deep Dive into Viscosity, Performance, and Additives

Mobilgear 600 XP 150's performance stems from a specific blend of base oils and additives. Understanding these components is crucial for finding a suitable replacement. Let's break down the key specifications:

Viscosity: The viscosity grade (e.g., ISO VG 150) indicates the oil's resistance to flow at a given temperature. A higher viscosity number means thicker oil, better for high loads and high temperatures. Choosing an equivalent requires matching the viscosity grade precisely. Using an oil

with a significantly different viscosity can lead to inadequate lubrication or excessive friction.

Extreme Pressure (EP) Additives: These additives are critical for protecting gears under extreme pressure conditions. They form a protective film on the gear surfaces, preventing metal-to-metal contact and reducing wear. The concentration and type of EP additives will impact the oil's load-carrying capacity. A replacement oil must contain sufficient EP additives to match or exceed the performance of Mobilgear 600 XP 150.

Anti-wear Additives: These reduce wear and tear on gears, extending their lifespan. Different additives offer varying levels of protection. When comparing oils, consider the presence and type of anti-wear additives.

Antioxidants and Corrosion Inhibitors: These additives prevent oil degradation and protect against rust and corrosion. Their presence is vital for maintaining oil quality and extending its service life.

By carefully examining the specification sheet of Mobilgear 600 XP 150 and comparing it to potential alternatives, you can ensure that the replacement oil offers comparable protection and performance.

Chapter 2: Identifying Your Equipment's Needs: Matching Gear Oil to Application

Not all gear oils are created equal. The ideal oil depends heavily on the specific application and operating conditions of your equipment. Consider the following factors:

Type of Gearbox: Different gearbox designs (spur, helical, bevel, worm) have different lubrication requirements. Consult your equipment's manual for specific recommendations.

Operating Temperature: The operating temperature range influences the necessary viscosity grade. Higher temperatures necessitate higher viscosity oils to maintain a protective film.

Load Conditions: Heavy loads require oils with higher load-carrying capacity, typically indicated by the presence of robust EP additives.

Speed: High-speed applications might require oils with specific properties to minimize friction and wear.

Before selecting a replacement for Mobilgear 600 XP 150, ensure that the alternative oil meets or exceeds the requirements outlined in your equipment's manual. This is paramount to avoid damage and premature failure.

Chapter 3: Exploring Suitable Alternatives: A Comprehensive List of Equivalent Gear Oils with Detailed Comparisons

Several manufacturers offer gear oils comparable to Mobilgear 600 XP 150. This chapter provides a comparative analysis of various brands and their products, highlighting key similarities and differences. It will include a table comparing viscosity grades, EP additives, and other crucial performance characteristics. This allows for a side-by-side comparison of options, making it easier to select a suitable replacement based on your specific needs and budget. Remember that direct equivalence is not guaranteed, so thorough comparison is crucial.

Chapter 4: Practical Considerations: Purchasing, Storage, and Safe Handling of Gear Oil

This chapter covers the practical aspects of using gear oil. It will discuss where to purchase high-quality gear oils, proper storage techniques to prevent contamination and degradation, and safe handling procedures to protect both yourself and the environment. It emphasizes the importance of using clean containers and avoiding cross-contamination with other lubricants.

Chapter 5: Troubleshooting and Avoiding Common Mistakes

This section addresses common problems associated with gear oil selection and usage. It includes troubleshooting steps to identify issues stemming from improper oil selection or maintenance and offers practical advice on avoiding these pitfalls in the future.

Conclusion: Maintaining Optimal Performance with the Right Gear Oil

Choosing the right gear oil is an investment in your equipment's longevity and performance. This guide provides a comprehensive framework for identifying and selecting an effective equivalent to Mobilgear 600 XP 150. By understanding the key specifications and carefully considering your equipment's needs, you can ensure the continued reliable operation of your machinery.

FAQs

1. What does ISO VG 150 mean? ISO VG 150 refers to the kinematic viscosity grade of the oil at 40°C. It indicates the oil's thickness and flow characteristics.
2. Can I use a higher viscosity gear oil than recommended? Generally, no. Using a higher viscosity oil can lead to increased friction, overheating, and reduced efficiency.
3. What are the consequences of using the wrong gear oil? Using the wrong gear oil can result in premature wear, gear failure, costly repairs, and equipment downtime.
4. How often should I change my gear oil? The frequency of gear oil changes depends on the operating conditions and manufacturer's recommendations. Consult your equipment's manual for specific guidance.
5. How can I tell if my gear oil is contaminated? Signs of contamination include discoloration, unusual smell, the presence of metallic particles, or excessive foaming.
6. Where can I find the specifications for Mobilgear 600 XP 150? Mobil's website and technical data sheets provide detailed information on their products.
7. What is the difference between a mineral-based and synthetic gear oil? Synthetic oils generally offer superior performance at high temperatures and under extreme pressure conditions.
8. Can I mix different types of gear oils? It's generally not recommended to mix different types of gear oils, as this can lead to incompatibility issues and reduced performance.

9. What should I do if I suspect I've used the wrong gear oil? Immediately consult your equipment's manual and contact a qualified technician to assess the situation and recommend appropriate action.

Related Articles:

1. Understanding Gear Oil Viscosity Grades: This article explains the different viscosity grades and their implications for gear lubrication.
2. Extreme Pressure (EP) Additives in Gear Oils: A detailed explanation of EP additives, their function, and their impact on gear protection.
3. Synthetic vs. Mineral-Based Gear Oils: This article compares the advantages and disadvantages of synthetic and mineral-based gear oils.
4. Gearbox Maintenance Best Practices: Guidance on proper gear oil maintenance, including oil changes and inspections.
5. Troubleshooting Common Gearbox Problems: Diagnosing and resolving common gearbox issues related to lubrication.
6. The Importance of Proper Gear Oil Storage: Tips for storing gear oil correctly to maintain its quality and prevent contamination.
7. Selecting the Right Gear Oil for Industrial Applications: A guide to choosing the right gear oil for various industrial machinery.
8. Safety Precautions When Handling Gear Oils: Instructions on safely handling gear oils to minimize risks to personnel and the environment.
9. Cost-Effective Solutions for Gear Oil Maintenance: Strategies for optimizing gear oil maintenance to reduce costs while maintaining equipment reliability.

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Contains papers presented at the symposium of the same name held in Bal Harbour, Fla., Oct. '87. A useful review. Annotation copyright Book News, Inc. Portland, Or.

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warm reimagining of the beloved folk song with a surprising new twist! Take children on a musical journey through Old MacDonald's farm to learn the sounds of farm animals - and find out what surprises might be in store for Old MacDonald himself! Jane Cabrera accompanies this sing-along classic with high-spirited illustrations and a refreshing text that will have young readers and parents eagerly turning the pages. Jane Cabrera's picture books have received worldwide attention and two Oppenheim Toy Portfolio awards. Her colorful twists on traditional nursery rhymes are a delight to both teachers and parents hoping to engage toddlers in the act of reading.

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mobilgear 600 xp 150 equivalent: **The Yellow Crayon** E. Phillips Oppenheim, 2005-10 Purchase one of 1st World Library's Classic Books and help support our free internet library of downloadable eBooks. Visit us online at www.1stWorldLibrary.ORG - - It was late summer-time, and the perfume of flowers stole into the darkened room through the half-opened window. The sunlight forced its way through a chink in the blind, and stretched across the floor in strange zigzag fashion. From without came the pleasant murmur of bees and many lazier insects floating over the gorgeous flower beds, resting for a while on the clematis which had made the piazza a blaze of purple splendour. And inside, in a high-backed chair, there sat a man, his arms folded, his eyes fixed steadily upon vacancy. As he sat then, so had he at for a whole day and a whole night. The faint sweet chorus of glad living things, which alone broke the deep silence of the house, seemed neither

to disturb nor interest him. He sat there like a man turned to stone, his forehead riven by one deep line, his straight firm mouth set close and hard. His servant, the only living being who had approached him, had set food by his side, which now and then he had mechanically taken. Changeless as a sphinx, he had sat there in darkness and in light, whilst sunlight had changed to moonlight, and the songs of the birds had given place to the low murmuring of frogs from a lake below the lawns.

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will be able to talk with more authority to his engineer. The book begins with an introduction to the properties rocks and soils, including sands and gravels, clays, and silts and peat. This is followed by discussions of the site investigation process, soil mechanics, and the principles of foundation design. Separate chapters cover foundation types (spread foundations and piles); foundation hazards and construction problems; and underpinning. Examples of foundation design are presented, such as simple bases, a column on the edge of a building, and examples of piling. The final two chapters discuss specifications for mass bases, reinforced pads, and trench foundations and pile caps; information to be given when inviting piling tenders; and the supervision of site works.

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costs, and durability. The remaining two chapters provide some worked examples and discuss the developments in earth reinforcement, respectively. The text will be of great use to undergraduate students of civil engineering and other related fields.

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