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Petrol Ofisi Lubricants is ready for the future needs of customers

Naphthenics help solve the "lithium problem"

ACEA highlights the need for accelerating efforts towards zero-emission mobility

PETDER publishes 2018 Sector Report

Editor's Letter

Istanbul Chemicals and Chemical Products Exporters' Association (IKMIB) organized the first Sectoral Trade Delegation in Kazakhstan. The Turkey Promotion Group (TPG) Lubricants Promotion Project, the first TPG project under the Association, was also held in Kazakhstan.

According to IKMIB data, the "mineral fuels, mineral oils and products" product group recorded the highest amount of exports among the chemical sub-sectors in October. The mineral oils product group, which has 612 million 280 thousand 141 dollars in exports by 75.9 percent increase compared to the same period of the previous year, ranked first among the sub-sectors in Turkey.

Petrol Ofisi, our cover brand for this issue, indicates that they meet not only the current but also the future needs of customers, as the traditional leader of fuels market and the lubricants and chemical products market. Sezgin Gürsu, Petrol Ofisi Lubricants Director, underlines that they are able to respond to the needs in the fastest and most ideal way and include customers in development and testing stages as well. You can also get detailed information about Petrol Ofisi's special products AdBlue, Ready-to-Use Antifreeze, Ready Extended Life Coolant and Maximus.

The Sector Report, published every year by PETDER, is released for 2018. The report contains detailed information and data on the Turkish petroleum sector. Niyazi İlter, PETDER Secretary General, stated that lubricant consumption in 2018 decreased by 14.04 percent compared to the previous year, while the use of antifreeze decreased by 33 percent, and the use of hydraulic brake fluid decreased by about 67 percent. In 2018, the amount of waste oil collected by PETDER is 22 thousand 146 tons.

Turkey Edition

Nynas reminds us that the growing demand for electrical equipment, as well as electronic devices such as mobile phones and computers, requires more efficient use of lithium sources and that naphthenic oils can optimize lithium use. According to the article, about 75 percent of grease production is lithium-based, and Nynas naphthenic specialty oils can help manufacture greases of the same quality with up to 50 percent less lithium content.

The European Automobile Manufacturers' Association (ACEA), on the other hand, stresses that if the 2025 and 2030 CO_2 targets set by the EU are to be achieved, a comprehensive plan for electric vehicles should be implemented urgently, the charging and refueling infrastructure should be developed and incentives should be offered to increase sales.

With this issue, we will attend the ACI's 11th European Base Oils and Lubricants Summit in Rotterdam, the Netherlands.

Enjoy reading.

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CONTENTS

20

Petrol Ofisi Lubricants is ready for the future needs of customers

6

Castrol cooperates with Tiefenbach for SmartControl technology

Castrol cooperates with Tiefenbach for SmartControl technology

BP Europa SE/Castrol and Tiefenbach Control Systems signed a cooperation and marketing agreement for the joint development of a real-time condition monitoring solution for metalworking fluids. Over the last two years in a joint process with Castrol, the SmartControl unit has been developed. The product was launched on March 15.

SmartControl is capable of measuring different fluid parameters in real-time and can be connected to a dosing system. The system thus offers an innovative solution for the fully automatic management of metalworking fluids. In addition, an integration of the system into the IT infrastructure of the customers is possible.

SmartControl has been designed to allow manufacturers to make use of real-time condition monitoring. It gives the opportunity to monitor and control the central system of metalworking fluids automatically, ensuring processes are more efficient, reliable, and can operate continuously without the need for human intervention.

With Castrol SmartControl, the most important parameter of the metalworking fluid is controlled automatically. The real-time condition monitoring enables the measurement of: Concentration, pH level, Conductivity, Temperature, and Volume flow.

Having instant access to robust data in these areas gives manufacturers the information required to make essential decisions that will influence processes, and ensures that any issues can be spotted, and subsequently remedied, immediately.

Tiefenbach is a globally oriented company with subsidiaries and distributors in 15 countries on five continents. Its core products are electrohydraulic control systems for the mining industry. Its offering includes all system components required for the control of modern powered roof supports. Additionally, it offers a wide variety of components necessary for ensuring the optimum use the longwall technology underground, such as for example measuring and dosing equipment for HFA fluids, tank units, emulsion mixing plants, filter or pump stations.

Repsol bought 40 percent stake in United Oil Company

Repsol signed the purchase agreement for a 40 percent stake in the Singapore-based lubricants manufacturer United Oil Company, which will manufacture and supply Repsol's brand of products in Singapore, Indonesia, Malaysia and Vietnam.

The agreement will allow Repsol to increase its presence in Southeast Asia, one of the world's largest and fastest-growing lubricants markets with sales of 3 million metric tons per year and an annual growth rate of 4 percent.

Southeast Asia, and particularly Indonesia, are key target markets for growth, fitting in with the Strategic Plan 2018–2020 goals to increase the international expansion of the Downstream Unit. Repsol aims to be a top-five player in Indonesia thorough the capabilities incorporated in this partnership.

The deal represents a third regional manufacturing hub to the ones Repsol already has in Spain and Mexico. United Oil Company has two lubricants plants, in Singapore and Indonesia, with total capacity of 140,000 metric tons.

The joint venture unveiled plans to upgrade United Oil Company's existing manufacturing plant in Indonesia and expand the network of dealers and distributors through a targeted sales and marketing drive. The alliance with United Global Limited will provide immediate access to new customer segments due to the complementary nature of both companies' brands and product lines.

The partnership in Asia adds to the joint venture created last year with Bardahl of Mexico, completing the foundations for the company's immediate strategic growth goals. Repsol aims to double its lubricants sales volumes to 300,000 metric tons, with 70 percent sourced from international business units.

Repsol has allocated 1.5 billion euros in investments for the period 2018–2020 for the growth of its Downstream unit, specifically its service stations, petrochemicals and lubricants businesses.

This agreement is subject to the fulfillment of standard authorizations for this type of transaction.

Cepsa renews marine lubricant agreement with ExxonMobil in Iberia

Cepsa has renewed its agreement with ExxonMobil for the manufacture, distribution and supply of Mobil-brand marine lubricants in more than 130 ports in Spain, Portugal and Gibraltar.

Cepsa produces MobilGard™ lubricants at its plant in San Roque (Cadiz). The company serves as an official distributor in the Iberian market for a variety of marine vessels, including ocean-going vessels, coastal navigation vessels, merchant ships, fishing and recreational vessels. Cepsa sells more than 90 products within the Mobil lubricants range and supplies nearly a thousand marine vessels annually.

ExxonMobil's marine lubricants offer a complete range of high-quality products that help protect engines and equipment, as well as enhancing and enabling efficient operations.

At the signing of the agreement renewal, Pamela Skaufel, ExxonMobil's Director of Aviation and Marine Lubricants, noted: "For more than 100 years, ExxonMobil has provided ship owners and operators with advanced lubricants, best-in-class fuels and industry leading services. The recent extension of our agreement with Cepsa is a clear commitment to ensuring our customers receive the best possible service in Iberia".

On Cepsa's side, Niurka Sancho, Director of the Lubricants, Base Oils & Paraffin Waxes business, stated: "The relationship that we have maintained with ExxonMobil over more than four decades has been possible thanks to our common commitment to innovation and continuous improvement. We continually strive to offer more efficient and safe products that meet the needs of a market as demanding and changing as the marine industry."

Over four decades of success

The relationship between ExxonMobil and Cepsa began in 1973 with the creation of a lubricant production plant near Cepsa facilities at San Roque.

Cepsa has been an official distributor of the ExxonMobil range of marine lubricants in Spain since the plant was put into production in 1976. Both companies later agreed to extend their agreement to include distribution and supply to the ports of Gibraltar (1997) and Portugal (2008).

In Spain, the relationship between ExxonMobil and Cepsa has contributed to achieving a leadership position in the marine lubricant market.

Evonik Oil Additives USA announces Richard Van Sleet as Regional President in the Americas

Evonik Oil Additives USA, Inc. announced today that Richard Van Sleet has been appointed Regional President in the Americas. He will retain his current responsibilities as global head of Marketing for Lubricant Additives.

"We are pleased and excited to appoint Richard Van Sleet into this important role in the Americas region," said Doris Schmidt, Sr. Vice President and General Manager of the Oil Additives Business Line. "With his extensive knowledge of our business, customers, and the industry's needs; and with our organization on the cusp of an exciting time of change and growth, he was the perfect choice to lead our Americas region to a new level of success."

Van Sleet has been with the Oil Additives Business Line of Evonik for over 25 years, holding various positions in Sales and Marketing in the USA and Germany.

"This is an exciting time," said Richard Van Sleet. "I'm honored to have worked for Evonik over the past nearly 3 decades. Taking on this new role is a challenge that I'm looking forward to, working with our experienced team in the Americas to bring continued success to our customers, Business Line, employees, and shareholders."

Van Sleet holds a Master's in Business Administration from Harvard Business School, and a Bachelor of Science in Chemical Engineering from Rensselaer Polytechnic Institute.

Evonik is one of the world leaders in specialty chemicals. The focus on more specialty businesses, customer-oriented innovative prowess and a trustful and performance-oriented corporate culture form the heart of Evonik's corporate strategy. They are the lever for profitable growth and a sustained increase in the value of the company. Evonik benefits specifically from its customer proximity and leading market positions. Evonik is active in over 100 countries around the world.

Richard Van Sleet

NYCO extends the new LuSC list with 11 Nycobase EL base fluid esters

The new criteria of compliance with the European Ecolabel were published in November 2018. Compared to the previous version, the current requirements are more stringent on environmental impact, amongst other aspects. They also define new categories of lubricants that open the scope for increased usage of certified lubricants in a greater number of applications.

The LuSC list (Lubricant Substance Classification list) is a positive list of components that have been approved for direct use in lubricating formulations intended to be submitted for European Ecolabel certification. Applicants using components from the LuSC list do not need to provide any additional documents to support their compliance. Thus it represents a formulation aid, making this sometimes tricky task easier for actors wishing to develop, promote and certify low environmental impact lubricants.

NYCO contributes actively to this beneficial trend for the environment and enriches the LuSC list with 11 base fluid esters, including 3 new products:

Nycobase 7300 EL, Nycobase 9300 EL and Nycobase 3118 EL.

This product line constitutes a full range of high performance esters dedicated to environmentally sensitive applications that are eligible to European Ecolabel certification, such as:

- hydraulic systems
- hydraulic turbine oils
- oils for closed gears and bearings
- stern tube oils
- greases for cables and open gears
- 2 stroke engine oils

Christian Kohlpaintner to become new CEO of Brenntag AG

The Supervisory Board of Brenntag AG appointed Christian Kohlpaintner as the company's next CEO and Member of the Management Board effective January 1st, 2020. Over the last two decades, Christian Kohlpaintner has held various management positions in leading international companies. He joins from Clariant International Ltd. where he was Member of the Executive Committee. Christian Kohlpaintner will succeed the current CEO, Steven Holland, who will leave the company at the same time.

Stefan Zuschke, Chairman of the Supervisory Board of Brenntag AG, commented on the appointment: "With Christian Kohlpaintner we have been able to place as our new CEO an internationally experienced business leader with a proven track record. He has demonstrated impressively that he can lead and develop major business divisions and companies successfully. It will be his mission to lead Brenntag to sustainable growth and expand the market leadership further. It will also be about breaking new ground while at the same time preserving the core of the successful business model."

The future CEO, Christian Kohlpaintner, commented on his appointment: "I am looking forward to my new role at Brenntag and the opportunity of working with my colleagues on the Management Board and the whole Brenntag team. Brenntag is a very healthy company which is ideally positioned in the chemical value chain."

The appointment of Christian Kohlpaintner also marks the end of Steven Holland's almost 14 years tenure with Brenntag, more than 8 years as its CEO. Stefan Zuschke: "The Supervisory Board would like to thank Steven Holland. Steven's vision and leadership have driven the company's growth and success in a dynamic and challenging environment. We sincerely thank Steven for his contributions and for developing the company into the leading position that Brenntag holds in the market today. The Supervisory Board wishes him all the best for the future."

Christian Kohlpaintner (55) has more than 20 years of management experience in an international environment. The Ph.D. chemist began his professional career at Hoechst, where he held various positions in Germany and the USA. Afterwards he moved to Celanese, where he worked amongst others as Marketing Director and as Vice President for Innovations. Between 2003 and 2009, Christian Kohlpaintner worked for Chemische Fabrik Budenheim, where his last position was CEO. In 2009, Christian Kohlpaintner joined Clariant in Switzerland, where he had been a member of the Executive Committee since then. Most recently he was based in China and amongst others responsible for the growth-oriented business areas of Clariant and the whole region Asia.

Afton Chemical completes expansion of Japan Technology Center

Afton Chemical Corporation, a global leader in the lubricant and fuel additive market, announced the completion of its Japan Technology Center expansion in Tsukuba. Mr. Jon Heese, City Councilor for Tsukuba, jointly opened the Japan Technology Center with Mrs. Regina A. Harm, President of Afton Chemical Corporation and Mr. Sean Spencer, Vice President and Managing Director of Afton Chemical Asia.

The investment provides an expansion of the analytical and mechanical laboratories to increase lubricant additive testing capabilities. This includes standardized and bespoke tests for transmission fluids, gear lubricants, passenger cars, motorcycles, commercial and off-road vehicles engine oils as well as industrial hydraulic oils. The expanded facility will provide its customers with enhanced technical services such as sample blending, physical/chemical analysis and performance testing that comply with international and Japan unique test methods like ASTM, JIS, JPI, JASO and JCMAS.

"We are committed to bringing our Passion for Solutions® model to Japan and the Asia-Pacific region to help our customers differentiate their offerings to meet the needs of the local marketplace. The expanded Japan Technology Center with its integrated technical support and performance testing will further enhance our ability to provide quick and effective solutions to our customers in Asia, and will provide customized solutions 'Made For' key Japan OEM projects," said Mrs. Regina A. Harm, President of Afton Chemical Corporation.

"Afton Japan is a unique market with different needs and challenges. The 'Made For' strategy is built on the intent to understand the dynamics of each individual market and ensure we are developing the correct solutions from a product and services perspective. We constantly keep track of the local and global trends impacting the market and partner our customers to develop innovative additive solutions that exceed industry standards," said Mr. Sean Spencer, Vice President and Managing Director of Afton Chemical Asia.

The Japan Technology Center's state-of-the-art chemistry and mechanical laboratories operate with lean processes and tests run are in full compliance with ISO 9001/14001 safety, environmental and quality standards. The state-of-the-art facility houses a team of 17 R&D managers, formulators, technologists, technician and administration staff, increasing the workforce by 100 percent since the last decade.

Gazprom Neft establishes a Singapore subsidiary company to develop its international marine lubricants business

Gazprom Neft has registered a new operating company, Gazpromneft Marine Lubricants, with an office in Singapore. The new business will manage the effective development of an international sales and logistics network for Gazprom Neft marine lubricants, including, specifically, in the South–East Asian and European markets. The company's products, endorsed by leading marine equipment producers, are already available in more than 250 ports worldwide.

The marine lubricants and oils range, available under the Gazpromneft and Gazpromneft Ocean brands, includes 43 branded high-tech products for all kinds of marine equipment, with the range including, specifically, 15 kinds of Gazpromneft Ocean engine lubricants for two- and four-stroke engines, the formulations of which have been developed in line with international shipping requirements and the provisions of the MARPOL-2020 convention.

Anatoly Cherner, Deputy CEO for Logistics, Processing and Sales at Gazprom Neft, said:

"Gazprom Neft's strategy to 2030 envisages expanding our geographic coverage in sales of marine lubricants. We are planning a significant increase in the production and sale of specialist lubricants, and expect to achieve a four-percent market share in the international marine lubricants market by 2030. Opening an operations office in Singapore – the center of international shipping, where one of the world's most important port-hubs is located – will allow us to expand our production and logistics network more effectively, through the company's own lubricants plants in Russia and partnering blending facilities abroad."

Anatoly Cherner

All aspects of steel industry discussed in Izmir

7th International Symposium on Iron & Steel was held in Izmir on September 26-27 with the participation of over 1250 delegates and visitors. The symposium, organized by TMMOB Chamber of Metallurgical and Material Engineers Training Center at Izmir Tepekule Congress and Exhibition Center, provided the suppliers, iron and steel producers and users from all over the world a great opportunity to discuss how they met the needs and overcame the challenges of the steel industry in the context of efficiency, quality, labor, cost, sustainability and circular economy.

At the symposium, focusing on the current developments and latest technologies in the iron & steel industry, many important subjects were discussed under the titles 'raw materials and sources', 'production techniques', 'sustainability and circular economy'.

From the lubricants sector, many leading companies took place at the symposium as booth participants, such as Alpet Industrial, Castrol, Klüber Lubrication, Petrofer, Petrol Ofisi and Total Turkey Marketing.

Alpet Industrial and Lubrizol Hazelwood Laboratories made a presentation titled "Tribological Approach to Calcium Sulfonate Complex Greases" at the fifth session of the symposium. They stated that R&D studies of greases that provide protection against machine and equipment parts in the presence of high temperatures and water in industrial systems are increasing day by day, and calcium sulfonate complex greases are one of the most remarkable areas to meet these needs.

At the same session, BP Castrol Plc made a presentation titled "Zero Carbon Print PAO Gear Oil with Innovative Plastic Deformation Additive (PAOX) and Energy Efficiency Benchmark Against Commercially Available Leading Gear Oils". Castrol noted that PD technology both brings in energy efficiency and protection against micro pitting; opening a new era for gear oils.

“Turkey is Europe's 4th largest lubricant market”

The Porsche Carrera Cup, today run with Porsche 911 Carrera, has maintained its place in motorsports for many years as an important automobile race series held in different countries. The Porsche Carrera Cup France, which is held since 1987, took place on October 12-13 this season. Ayhancan Güven, representing Turkey at the Porsche Carrera Cup, started the second race at the Paul Ricard Circuit in pole position. Güven completed the race in the first place and won his fifth victory in the 2019 season. He became a great source of pride for Turkey by winning the Porsche Carrera Cup France Champion title twice since 2005-2006.

Münci Bilgiç, General Manager of Mobil Oil Türk A.Ş., closely followed the race, for which Mobil 1 is among the sponsors. Bilgiç congratulated Ayhancan Güven for making his name heard all around the world in the field of motorsports, and made some statements about the Turkish market.

“We offset the decline in the domestic market with exports”

"2019 has been a difficult year for Turkey in terms of economy. We anticipated such difficulties when making our 2019 plans and thus we prepared ourselves. While there is a significant contraction in new automotive sales, a revival is observed in the second hand market in parallel to this contraction. We estimate that motor oil demand will increase and we revise our plans accordingly. 2019 will not be remembered as an easy year. It has been a year when the economy is negatively affected but we have started to see signs of recovery. Our domestic sales have decreased slightly but we see that we have gained market share as our sales have decreased less. On the other hand, our exports have increased and this has offset our sales in the domestic market. I believe that 2020 will be a much better year."

Münci Bilgiç continued:

"Mobil has 30 factories in the world. One of them is located in Turkey and thus we are very proud because we are delivering products to the entire Central Asia, the Balkans, the Southern Russia and Turkey from our plant in Turkey. We are exporting our products to a total of 14 countries from Turkey. The volume of Turkish lubricants market is approximately 500 million liters. In this respect, we are at the 4th place in Europe, following the United Kingdom, Germany and France."


Münci Bilgiç

TÜPRAŞ tops Fortune 500 list

Turkish Petroleum Refineries Corporation (TÜPRAŞ) tops the Fortune 500 Turkey survey, which is carried out for the 12th time this year, including all sectors except for financial institutions and holding companies. TÜPRAŞ increased its net sales by 64.1 percent to 88.5 billion liras. The company was in the top of the list last year.

Another company that retained its ranking in the list is the Energy Exchange Istanbul (EXIST). The company increased its net sales by 55 percent and maintained its second place with 63.8 billion liras. Respectively, EXIST is followed by Petrol Ofisi, Turkish Airlines, BOTAŞ, OPET, Ford, BİM, Arçelik and Shell.

Total net sales of 500 companies in the list increased by 31.84 percent to 1 trillion 588 billion 380 million liras. Considering the fact that the PPI in 2018 is 33.64 percent, net sales decreased by 1.35 percent in real terms.

Petroyağ continues its institutionalization efforts at full speed

Petroyağ established the "Corporate Development Directorate" with the changes made in organization at the end of 2018 under the leadership of second generation Serra Koyuncu. Koyuncu stated that with this new structure, they determined their five-year corporate development strategies and said:

"We consider the period since we moved to our facilities in Gebze in 2014 as the infrastructure process of institutionalization. Many innovations and arrangements were realized in these years. Now we are in the second phase, at which we will activate other processes that support this infrastructure. Transformation, institutionalization is a journey that consolidates with time and needs to be internalized. We reviewed the examples and visited family companies like us. We formed the Corporate Development Directorate with our friends who could lead this change. We have declared 2019 as the Corporate Transformation Project Year. With the launch event, we explained to the Petroyağ family why we started this transformation, how we will manage it, and most importantly, that we will do it together. It is very important for us to see happy faces and observe that they feel understood. We believe that in this way Petroyağ will remain standing for many years."

Serra Koyuncu


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Petrol Ofisi Lubricants is ready for the future needs of customers

Highlighting the fact that Petrol Ofisi is the traditional leader of fuels as well as the lubricants and chemical product markets in Turkey, Petrol Ofisi Lubricants Director Sezgin Gürsu said "Petrol Ofisi displays a customer-oriented approach in the field of lubricants, as it does in other fields, with the responsibility it bears as the leader in the industry. With our unique accumulation of knowledge rooted in our long-established experience, the privilege of the Petrol Ofisi Technology Center (POTEM), production power, advanced technology, high capacity and capability, we offer products and services in line with the needs of our customers that we communicate with in person. Petrol Ofisi also understands the future needs of its customers as well as it does the current ones and provides products and services in parallel with technological developments. When needed, we develop tailor-made products and offer solutions for special projects."

We can meet the needs in the fastest and the most ideal way

Sezgin Gürsu, Petrol Ofisi Lubricants Director, emphasized that they have been the leader in the Turkish lubricants and chemical products markets for 9 successive years and they have been constantly innovating and developing. He said:

"Our factory in Derince, Kocaeli is one of the most important and the most modern facilities of Turkey in this field with its production capacity of 140 thousand tons and a total storage capacity of 65 thousand tons, 15 thousand for finished products and 50 thousand tons for raw and semi-raw materials. In 2018, we exceeded 100 thousand tons in sales and reached over 10 thousand tons in exports to 35 countries in 4 continents.

Furthermore, with the Petrol Ofisi Technology Center - POTEM, we make the best of significant R&D and technology power. In our center, a total of 155 different tests can be performed with national and international methods, 84 of which are accredited from TURKAK (Turkish Accreditation Agency). In POTEM, which is one of the most advanced centers of technology in the international arena, we perform 150 thousand tests per year on average. Our center does not only provide services for Petrol Ofisi with its advanced technology and accredited capability. We also offer R&D, quality control, and analysis services to many domestic and foreign companies including public institutions and world giants in particular. We, as the Maxima and Maximus families, meet almost all needs in Turkey's lubricants industry under a single roof thanks to our advanced technology and broad product portfolio that consists of over 350 products. We deliver our products to across Turkey via a total of 16 thousand sales points, including Petrol Ofisi fuel stations, Maxima - Maximus Oil Change Centers, and distributors.

We incorporate our customers into development and testing stages as well

Besides such advantages, we are always in touch with our customers that we provide services in all industries, primarily automotive, industrial production and construction. We can ideally and quickly respond to emerging needs and we can update ourselves as fast as possible. We even incorporate our customers into the development and testing stages.

AdBlue with Petrol Ofisi guarantee

As you know, use of AdBlue is obligatory to reduce the air pollution caused by vehicle emission, especially for the heavy commercial vehicle group, including trucks and buses. To meet our customers' needs, we have launched a project and started selling AdBlue under the Petrol Ofisi guarantee at the pumps in some of our stations, particularly those located along the main transportation routes, and we continue to make them more widespread. Petrol Ofisi AdBlue, which meets international quality criteria and standards, reduces emitted hazardous nitrogen oxides (NOx) by up to 80 percent. Also, it provides up to 6 percent more fuel saving in Euro 5 and Euro 6 engine vehicles compared to Euro 3.

Ready-to-Use Antifreeze and Ready Extended Life Coolant for cold weather

Used for protecting the engine and the cooling system parts, antifreeze prevents overheating by increasing the cooling water's boiling point and protects radiators from freezing by decreasing its freezing point. It also provides protection against corrosion. That's why antifreeze is an obligatory chemical to be used in vehicle engines throughout the year. Regular antifreeze products need to be mixed with a certain amount of water before being poured into the engine. In addition to our concentrated product, we also offer our customers the Ready-to-Use Antifreeze, which is an ideal mixture of antifreeze and water. Our other newly developed product is the Ready Extended Life Coolant, which is a new generation long-lasting antifreeze formulated with organic acid technology (OAT). Petrol Ofisi Ready-to-Use Antifreeze is an ethylene glycol-based conventional antifreeze which provides high radiator protection. Both of our antifreeze products protect engines up to -40 °C.

Maximus offers ideal solutions for each heavy commercial vehicle

While our Maxima engine oil family offers ideal solutions for cars and light commercial vehicles in the automotive industry, Maximus family offers ideal solutions for heavy commercial vehicles with its rich product diversity. Thanks to their superior characteristics and advanced technology, our Maximus engine oils protect engines, extend their

Sezgin Gürsu
Petrol Ofisi Lubricants Director

lifetime, prevent performance loss, save fuel and reduce business expenses by providing efficient performance. Meeting global specifications, Maximus engine oils have broad product range to offer precise solutions for all vehicles from every brand and model in the heavy commercial vehicle park of Turkey, including the ones equipped with the latest technology.

It also provides 50 percent less oil loss, saves money and supports performance

As Petrol Ofisi, we define heavy vehicle drivers and mechanics as 'Maximus Men' who work in a very hard job that requires strength, trust and performance. We go back a long way with Maximus Men. We know them very well and follow them closely. We know and understand the challenges they experience. We provide them with the right solution and support. With this perspective, we developed our Maximus product family to strengthen them even more, to facilitate their work and to increase their earnings. Thanks to its new formula providing 50 percent less oil loss compared to industry standards, our Maximus engine oils not only ensure ideal engine protection but also save fuel and reduce business expenses."


NEVER APART
We will never back down in the face
of our customers' technical challenges.
Our commitment to designing high-performing
synthetic esters and lubricants with you will
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Solutions ahead

ACEA highlights the need for accelerating efforts towards zero-emission mobility

At the start of a new EU political term, the European Automobile Manufacturers' Association (ACEA) is urgently calling for a comprehensive plan to enable the transition to zero-emission mobility in Europe. This should include a major ramp-up of charging and refuelling infrastructure, as well as meaningful purchase incentives to stimulate sales, helping to achieve the goals set by the EU.

At the Frankfurt Motor Show, ACEA launched the first edition of its annual report on the key 'enabling factors' for stronger consumer acceptance of electric and other alternatively-powered cars in the EU. If the extremely ambitious 2025 and 2030 CO_2 targets set by the EU are to be achieved, sales of such vehicles will have to pick up rapidly.

The aim of ACEA's report is therefore to track progress on the availability of infrastructure and incentives (such as bonus payments and premiums) ahead of the 'mid-term review' of the CO_2 targets, to be conducted by the European Commission in 2023.

"Our industry is eager to move as fast as possible towards zero-emission mobility. But this transition is a shared responsibility," underlined Carlos Tavares, ACEA President and Chairman of the Board of PSA Group. "It requires a 360 degrees approach."

Tavares: "From our side, we are offering an ever-growing choice of alternatively-powered cars to our customers. In parallel, governments across the EU need to match the increasing pace at which we are launching these cars by dramatically stepping up investments in infrastructure. Moreover, they also have to put in place sustainable purchase incentives that are consistent across the EU."

ACEA's 2019 progress report shows that in 2018 there were less than 145,000 charging points for electrically-chargeable vehicles (ECVs) available throughout the entire European Union. Although this is three times more than five years ago, it still falls far short of the at least 2.8 million charging points that will be required by 2030, which translates into a 20-fold increase in the next decade.

But it is not only the overall lack of infrastructure that poses a problem, it is also the huge imbalance in its distribution across the EU. Indeed, four countries covering roughly one quarter of the EU's total surface area – the Netherlands, Germany, France and the UK – account for more than 75 percent of all ECV charging points in the EU, according to the latest ACEA's analysis.

In addition, there is a clear link between the market uptake of ECVs and the number of charging points per 100 km of road: almost all EU countries with less than 1 charging point per 100 km of road also have an ECV market share of under 1 percent.

Another major issue is affordability. The new ACEA data shows that the market uptake of electrically-chargeable vehicles is also directly correlated to a country's standard of living. All EU member states with an ECV market share that is less than 1 percent have a GDP per capita below €29,000. That includes many countries in Central and Eastern Europe, but also Greece, Italy and Spain.

"We need to safeguard people's right to mobility, regardless of where they live or their financial means," concluded Carlos Tavares. "Mobility must be clean, safe and affordable."

Key findings of ACEA report

1. Market uptake of alternatively-powered cars

- 2 percent of all cars sold in 2018 were electrically-chargeable (+1.4 percentage points since 2014).
- 3.8 percent of new passenger cars in the EU were hybrid electric last year (+2.4 percentage points over the last five years).
- 0.4 percent of all cars sold in 2018 were natural gas-powered (-0.4 percentage points since 2014).
- Fuel cell vehicles currently account for a negligible share of total EU car sales.

2. CO_2 emissions of new passenger cars

- In 2017, petrol cars became the most sold type in the EU for the first time since 2009.
- 2017 also marked the first increase (+0.3 percent) in CO_2 from new cars since records began.
- 2018 saw an even bigger drop in diesel sales, and a stronger surge in demand for petrol, resulting in a 1.8 percent increase of new-car CO_2 emissions.

3. Affordability

- The market uptake of electrically-chargeable vehicles (ECVs) is directly correlated to a country's GDP per capita, showing that affordability is a major barrier to consumers.
- All countries with an ECV market share of less than 1 percent have a GDP below €29,000, including EU member states in Central and Eastern Europe, but also Spain, Italy and Greece.
- An ECV share of above 3.5 percent only occurs in countries with a GDP of more than €42,000.
- Only 12 EU countries offer bonus payments or premiums to buyers of ECVs. These purchase incentives, and especially their monetary value, differ greatly across the European Union.
- If we expand the scope to also include tax exemptions and reductions (i.e. related to acquisition and ownership), four member states do not offer any tax benefits or incentives for ECVs at all.

4. Infrastructure availability

- Although there has been a strong growth in the deployment of ECV infrastructure, the total number of charging points available across the EU (144,000) falls far short of what is required.
- According to conservative estimates by the European Commission, at least 2.8 million charging points will be needed by 2030. That is a 20-fold increase within the next 12 years.
- Four countries covering 27 percent of the EU's total surface area – the Netherlands, Germany, France and the UK – account for 76 percent of all ECV charging points in the EU.
- Almost all EU member states with less than 1 charging point per 100 km of road have an ECV market share of under 1 percent.
- There were just 47 hydrogen filling stations available across 11 EU countries in 2018.
- 17 member states did not have a single hydrogen filling station.
- There are some 3,400 natural gas filling stations in the EU, up 17.5 percent since 2014.
- Two-thirds of these filling points are concentrated in two countries (Italy and Germany).

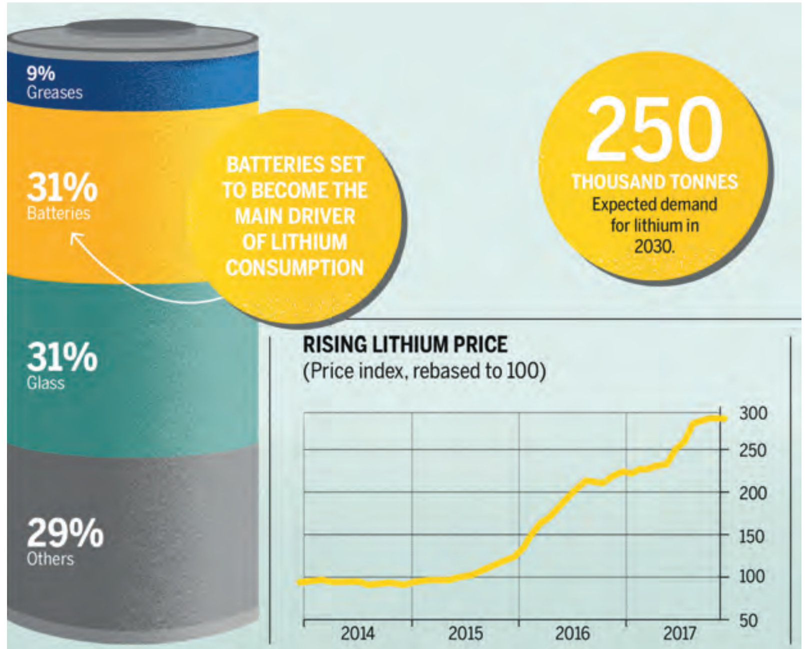
Naphthenics help solve the "lithium problem"

NYNAS

With an electric car revolution on its way and an ever-growing appetite for mobile phones, computers and other gadgets, the world needs to find solutions to increase supply and optimize the use of lithium. Part of that solution comes in the form of naphthenic oils.

In 2017, global lithium production was just below 50,000 tons, which is expected to grow fivefold until 2030. As a result of the growing demand and lagging supply, prices are sky-rocketing and annual contract prices for lithium carbonate and lithium hydroxide doubled in 2017.

The International Energy Agency expects a rise from today's two million chargeable electric cars to 300 million in some 20 years. But demand for vehicle batteries is expected to overtake consumer electronics as the largest consumer of lithium-ion battery power this year already.



Reducing lithium in greases

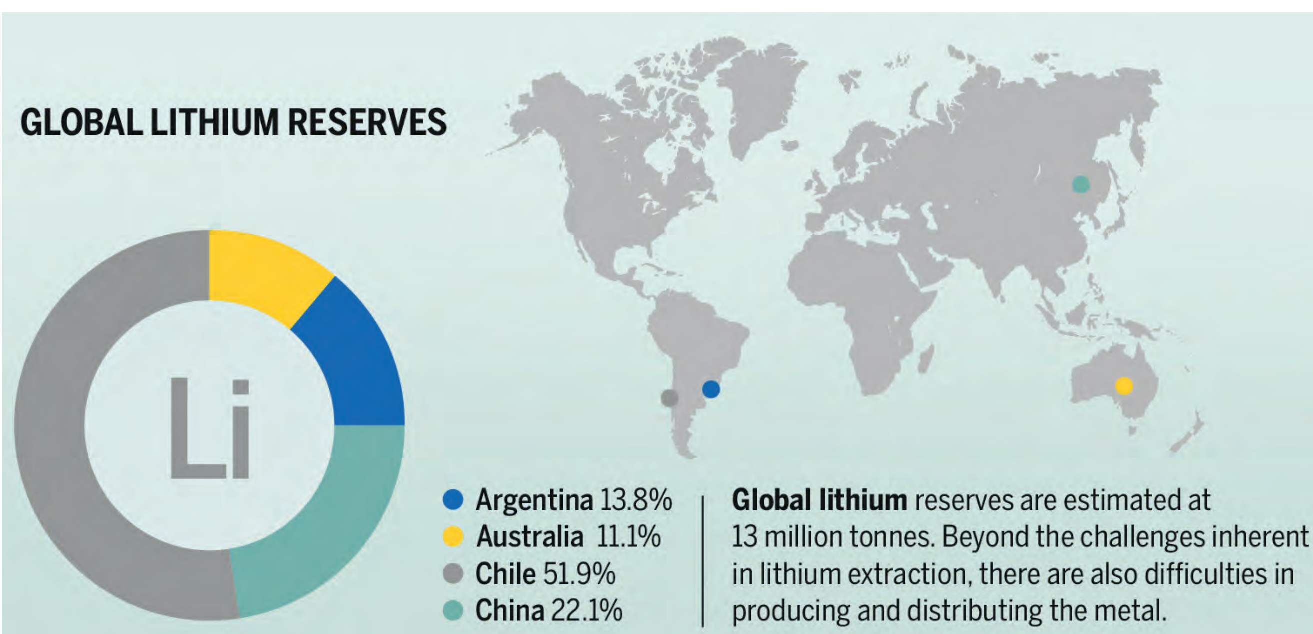
In round figures, 75 percent of lubricant grease production is lithium-based. Rapidly increasing demand for lithium from manufacturers of batteries is reducing availability and forcing up prices.

This trend creates challenges for grease formulators. The problem is particularly serious for companies that manufacture products in the medium quality range, where it is not possible to fully compensate for price increases through end customers.

But there is an alternative in Nynas naphthenic specialty oils (NSP). Thanks to their good solubility, it is possible to manufacture lubricating greases of the same quality but with up to 50 percent lower lithium content, making the formulation more economical and the lithium stock last longer in the warehouse.

With the changes taking place in the market today, it is apparent that NSP has a much bigger role to play for the lubricating grease industry than ever before.

Sources: *The Economist, Industrial Minerals, IEA, Ny Teknik, US Geological Survey, Benchmark Mineral Intelligence*



PETDER publishes 2018 Sector Report

PETDER published the 2018 Sector Report, which includes detailed information and data on the oil sector. According to the report, lubricant consumption decreased by 14.04 percent in 2018.

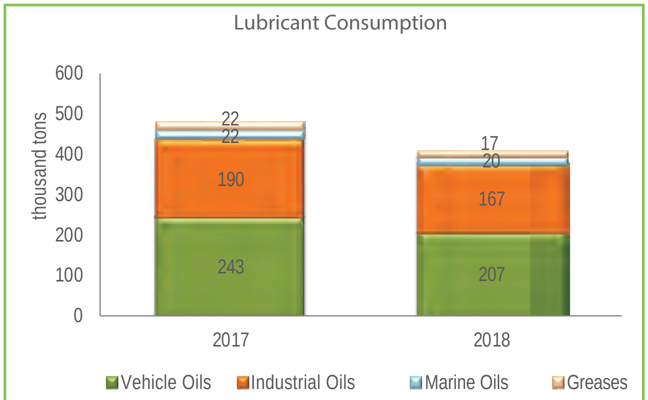
Niyazi İlter, PETDER Secretary General, shared the following data regarding the lubricants in the 2018 Sector Report:

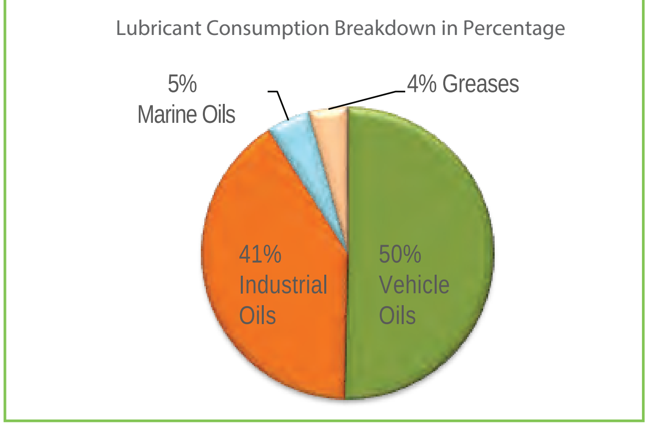
Lubricant consumption in Turkey, which is estimated using the data obtained from 10 lubricant companies by their voluntary contribution, the Foreign Trade Statistics published by TurkStat, and the statements submitted to the Ministry of Environment and Urbanization, was 478 thousand tons in 2017, and became 410,579 tons with a decrease of 14.04 percent in 2018.

Vehicle oils consisted of 50 percent of the total consumption, while the remaining 41 percent was industrial oils. Of the 207 thousand tons of vehicle oils consumed in 2018, 176 thousand tons were consumed as motor oil. Commercial vehicles consumed 104 thousand tons of the motor oils, whereas 68 thousand tons were consumed by passenger vehicles, and 3 thousand tons were consumed by motorcycles. Motor oil consumption decreased by 13.7 percent compared to the previous year.

In 2018, a total of 167 thousand tons of industrial oils were used in our country. Hydraulic oils consisted of 70 thousand tons of the industrial oils used in 2018. This is followed by process oils with 39 thousand tons, transformer oils with 11 thousand tons, gear oils with 8 thousand tons and metal processing oils with 7 thousand tons. Other oils account for the remaining 31 thousand tons.

In the special products category in 2018, the use of antifreeze decreased by 33 percent from 37 thousand tons to 25 thousand tons. The use of hydraulic brake fluid decreased from 3 thousand tons to 2 thousand tons.





22,146 tons of waste motor oil collected in 2018

In 2018, the amount of waste motor oil collected by PETDER and delivered to the enterprises licensed by the Ministry of Environment and Urbanization increased by 10.75 percent to 22,146 tons.

Largest waste oil providers in 2018 were vehicle services, industrial vehicle parks, construction and mining sectors respectively. İstanbul, Ankara and İzmir were the cities that delivered the highest amount of waste motor oil.

The amount of waste oil collected by PETDER in the last 14 years was 239,230 tons and the amount of resources used for the project in this period was 65 million TL.

Underlining that PETDER is the sole authority for the collection of waste motor oils, PETDER Secretary General İlter made the following statements:

"PETDER continues its efforts to increase the amount of waste motor oil collected. With the support of the relevant public institutions, especially in recent years, significant achievements have been achieved in this field. In this regard, the most significant indicator is that the surplus in base oil demand decreased by 10.96 percent in 2018 compared to the previous year.

In addition, it is observed that awareness has started to develop as a result of the activities on waste motor oils. However, some of the waste motor oils are still used in the 'number 10 oil' activities in our country. The 'number 10 oil' is a non-standard fuel product, which will absolutely damage the vehicle and may cause serious accidents with deaths or injuries.

The 'number 10 oil' chain consists of five main rings:

1- Waste Motor Oil Producers Illegally Selling Waste Motor Oil

2- Unauthorized Carriers/Collectors of Waste Motor Oil

3- Facilities Producing 'Number 10 Oil' for Illegal Use

4- Places Where 'Number 10 Oil' Is Sold As Fuel

5- 'Number 10 Oil' Users

In order to prevent 'number 10 oil' activities, regular and effective inspections and sanctions should be applied separately to all five rings of this chain, and they should be regularly shared with the public."

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Fossil resources: Environment and climate change

Türktay
TÜRKİYE'DE TÜM YÖNLERİYLE
ATIK YÖNETİMİ PANELİ

The cost of providing welfare and comfort in our lives by using coal, oil, natural gas, and the products made from these fossil resources is very high for our planet. Therefore, it is indisputable to minimize the greenhouse gas emissions, solid-liquid-gas pollutants caused by fossil resources throughout their life cycles.

In the Climate Responsibility Institute's publication titled "Carbon Majors: Updating Efficiency Data, Additions, Calculation of Emissions" of September 30, 2019, it is stated that the top 20 companies are responsible for more than one third of global greenhouse gas emissions for the 1965-2017 period. The top 10 companies' share in total emissions is as follows in decreasing order: Saudi Aramco (59.26), Chevron (43.35), Gazprom (43.23), ExxonMobil (41.90), National Iranian Oil (35.66), BP (34.02), Royal Dutch Shell (31.95) Coal India (23.12), Pemex (22.65), and Petroleos de Venezuela (15.75). As can be seen, oil companies have a major impact on climate change. Therefore, while energy is in transformation and the transition process in energy continues, oil companies have a big role in combating climate change, and existing targets and legislation impose obligations to the sector. In addition to the major impact of the oil sector on climate change, waste management is of particular importance for the production and consumption of petroleum products, especially for lubricants and plastics. The pollution caused by the oil spill on the Brazilian coasts is still an urgent problem that is trying to be solved.

With the renewed Environmental Law, the Zero Waste Regulations, the Regulations on Recycling Share, and the Law on the Establishment of Turkey Zero Waste Foundation; it is clearly put forward that waste lubricants and waste plastics are important national fossil raw materials, and the journey of waste lubricants and waste plastics will be more efficiently followed and examined.

On the Way to Green Economy, Zero Waste themed 10th Panel on Waste Management in All Aspects in Turkey (10th TURKTAY) took place in Ankara on October 16-17, 2019 with the high-level participation of the Ministry of Energy and Natural Resources, the Ministry of Interior, the Ministry of Industry and Technology, The Ministry of Defense, the Ministry of Agriculture and Forestry, and the Ministry of Trade with the main support of the Ministry of Environment and Urbanization. First Lady Mrs. Emine Erdoğan, Mr. Murat Kurum, Minister of Environment and Urbanization, and Mrs. Ruhsar Pekcan, Minister of Trade participated in the panel, which attracted great interest from the actors in the waste business, sector associations, local governments and officials. Main discussion points in the panel were the strategic position of waste management in terms of our national interests, supervision, rare elements, and electrical and electronic waste, hazardous waste management, cement and waste, waste imports, and Zero Waste Project. Deputies Hacı Osman Akgül, Ahmet Akın and Dr. Şenol Sunat shared the political parties' reflection on the impact of waste economy on industry, energy and employment in Turkey, and its strategic importance. On the output target of the 10th TURKTAY, Mrs. Emine Erdoğan said: "At the point we have arrived, we cannot continue as if there is no future. It is not an option but an obligation for anyone to switch to green economy, which means ensuring that resources are passed on to the future without reducing them." As the 10th TURKTAY Executive Committee, we will soon submit our final declaration to the officials and stakeholders.


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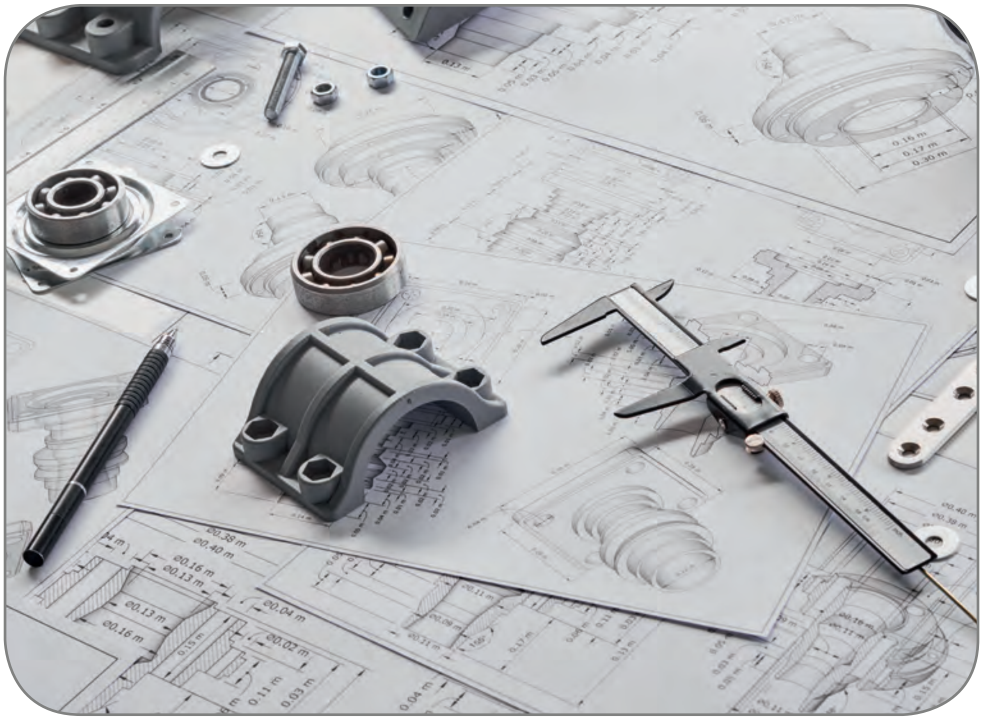

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Journal bearing design criteria – IV Bearing clearance

Elements that carry power transmission elements such as gear wheel, belt and pulley or chain wheel mechanisms are called shafts. Shafts that assume this carrying task are supported with journal bearings and ball bearings (rollers). Part of shafts that is enclosed by a bearing is called the journal. That's why these are called journal bearings.

A journal bearing system consists of two main parts: a rolling journal and a fixed bearing block. The bearing may cover the journal partially or completely. The bearing can be called full bearing or partial bearing accordingly. There is a gap between bearing and journal diameters. This is called bearing clearance (c). Bearing clearance is used for assembling the shaft and bearing, creates the gap needed for the lubricant, helps decrease thermal expansion, and helps minimize the axial misalignment and/or deflection problems.

Nominal dimensions of bearing and journal are the same; but the necessary cavitation for oil film is created between bearing surface and journal surface by selecting appropriate tolerances in design and production. If we take bearing diameter as D and journal diameter as d, the formula to calculate bearing clearance is c = D-d. The bearing clearance to journal radius ratio is called relative bearing clearance. It is usually shown as ψ in bearing design, and it is calculated as ψ = (D-d)/d. Relative bearing clearance (ψ) depends on various factors such as the load on the bearing, speed of the shaft, dimensions and tolerances. It should be underlined that performance of the bearing to be designed will be greatly affected by any change in this number.

As the bearing clearance will vary between the highest and lowest limit values according to the dimension tolerances of the bearing and the shaft, average bearing clearance and average relative bearing clearance values are considered in bearing design calculations. However, for safety, minimum and/or maximum bearing clearances should also be checked by taking into consideration the surface roughness values.

As a general design criterion, lower ψ value is selected at low shaft speeds and high bearing loads, while higher ψ value is used at high shaft speeds and low bearing loads. When bearing clearance is high, the pressure in bearing increases and the pressure distribution curve tapers at the center of the bearing. In practice, it is generally accepted that the bearing clearance between shaft (journal) and bearing should be around 1‰ of the shaft diameter. If we take ψ≥0.002 under operating conditions with high shaft speed and low bearing load, friction is decreased and there is less temperature increase in bearing. According to the shaft speed, the $\psi = 0.8\ 10^{-3}\ (U)^{1/4}$ formula is recommended for average relative bearing clearance. In the formula, speed is peripheral speed in terms of [m/s]. It should be underlined that the bearing temperature in real operating conditions will be much higher than in production conditions, and the bearing clearance may change due to the wear on journal and bearing surfaces as a result of operation over time. *(to be continued)*

References: *Babalık, F.C., Çavdar K., Makina Elemanları ve Konstrüksiyon Örnekleri, 8th Edition, Dora Printing-Publishing and Distribution Ltd. Co., Tevrüz, T., Makine Elemanları ve Konstrüksiyon Örnekleri, Vol. 2., Çağlayan Bookstore, Gemalmayan, N., https://websitem.gazi.edu.tr/site/nihatgem/files, Kurbanoğlu, C., Makina Elemanları, Teori, Konstrüksiyon ve Problemler, Nobel Printing House, Durak, E., Industrial Lubrication Techniques Lecture Notes)*


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Engine oil
user guide

VISCOSITY GRADE: is the main feature of an engine oil and is important for product selection

Signification of grades

xx W- yy

xx refers to viscosity when cold

(measured at different temperatures)

The lower the viscosity when cold, the more fluid the oil is at low temperatures and the more easily it can be pumped.

For example, a 0W-20 or 5W-30 oil will make start-ups easier and will protect engines during trips to cold regions. These high technology “fluid” oils will meet the requirements of recent engines.

yy refers to viscosity when hot

(measured at 100 °C)

The higher the viscosity when hot, the more viscous the oil is.

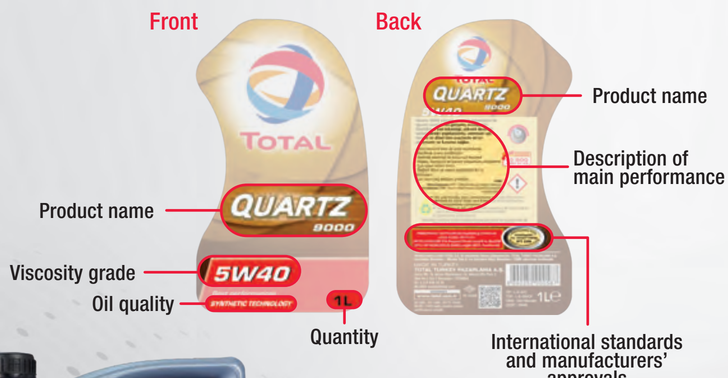
For example, a 15W-40 or 20W-50 oil has been developed for use in hot countries, and their “viscous” nature makes them suitable for older engines.

POINTS TO REMEMBER

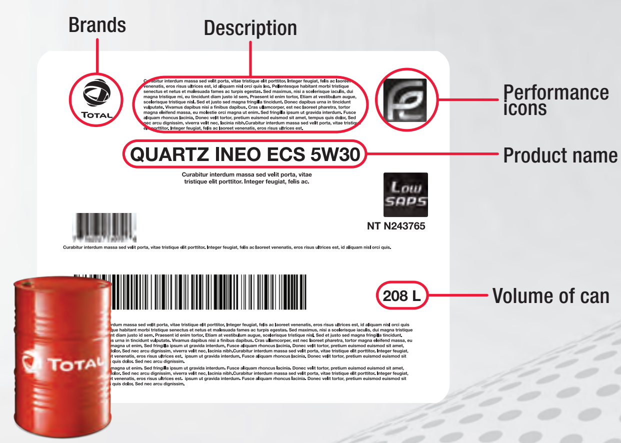
New-generation engine oils and those currently being developed by TOTAL are of increasingly fluid grades: 0W-20, 5W-20, 0W-30 and 0W-16.

How to read a product label for product selection?

Small packaging:



Large packaging:



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