

ROK Market Brief No.19

Ignition Wiring Sets Market

Opportunities under the Korea-Central America Free Trade Agreement

The Korea-Central America FTA (K-CA FTA) brings significant benefits for CA exporters. Under the agreement, the Republic of Korea and the Central American countries will immediately or gradually reduce tariff on more than 95 percent of traded products. Such benefit will help CA exporters compete with exporters from other countries which have trade deals with Korea.

This guide provides an overview of the ignition wiring sets for automotive vehicles category that benefit from tariff reductions under the K-CA FTA and have market access.



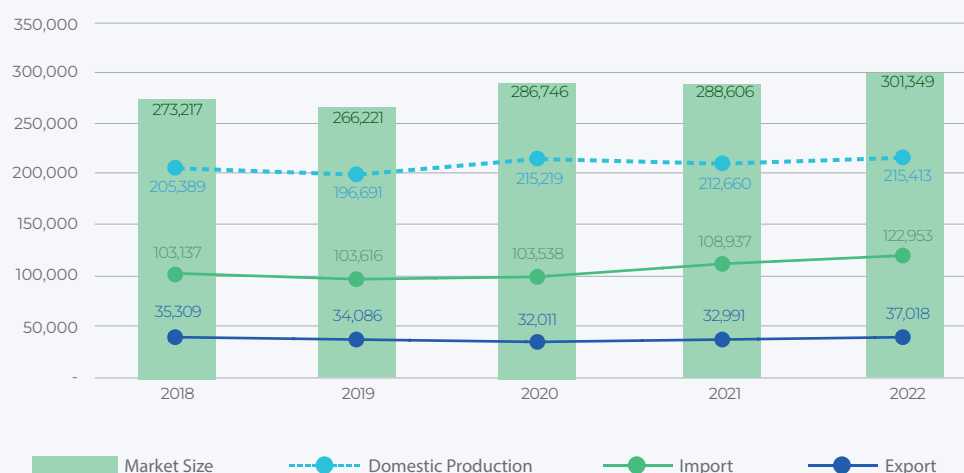
Market Snapshot

The ROK ignition wiring sets market has shown a robust growth trend in recent years from 2018 to 2022. In terms of volume, there was a clear pattern of growth, rising from 273,217 tons in 2018 to 301,349 tons in 2022 with an annual growth rate of 2.55%. In terms of value, it increased from 4,667 million USD in 2018 to 5,749 million USD in 2022 showing an annual growth rate of 5.35%.

Out of the total ROK ignition wiring sets market, proportion of domestic production is dominant in both volume and value. Domestic production accounts for 71.48% in volume, imports account for 41% and exports constitute 12% in volume.

Figure 1. ROK ignition wiring sets in volume (2018-2022)

(Unit: Ton)



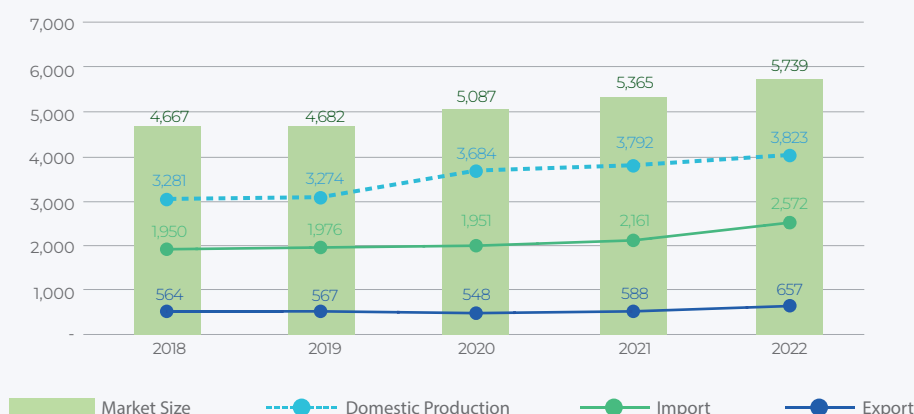
Source) Korea Customs Service Import and Export Statistics (2023)

Note1) Market Size = (Domestic production+Import) – Export

Note2) Domestic production is estimated by calculating the average unit price per ton for each year based on export statistics of HS CODE 854430 and then substituting it into the production amount data of each year.

Figure 2. ROK ignition wiring sets in value (2018-2022)

(Unit: million USD)



Source) Korea Customs Service Import and Export Statistics (2023)

Note) Market Size = (Domestic production+Import) – Export

Along with the demands for general and electric vehicles in domestic and global markets, the market is forecasted to the similar or higher growth rate in the future. For the next 5 years from 2022 to 2027, the ROK ignition wiring set market size is anticipated to grow at an annual rate of approximately 6% in value and 3% in volume.

The domestic production and import size are expected to increase keeping the same upward trend. Yet, to optimize production efficiency and reduce labor costs, Korean manufacturers predominantly import wiring sets from local factories in regions like China and Southeast Asia. This strategic approach allows for a steady supply of wiring sets, often sourced from Korean manufacturing companies' overseas facilities, showcasing a reliance on international production networks.

China emerges as the primary supplier in the Republic of Korea's ignition wiring sets market, contributing to 72% of total imports by volume in 2022. Enjoying a 0% tariff rate, China's dominance is further enhanced. Hence, with such backdrop, it is essential to understand the tariff structure for Central American exporters looking to establish a foothold in the ROK market. Under the K-CA FTA all CA countries have or will soon have a comparative advantage due to lower tariffs on ignition wiring sets. The detailed tariffs are described in the table below:

Table 1. Tariff on HS Code 854430 as of 2024

Country	HS Code	WTO bound rate	Current rate (2024)	Elimination of custom duties ¹
Costa Rica	854430.0000	13%	0%	2021.01.01
El Salvador	854430.0000	13%	0%	2022.01.01
Panama	854430.0000	13%	0%	2023.01.01
Honduras	854430.0000	13%	0%	2019.10.01
Nicaragua	854430.0000	13%	0%	2021.01.01
Guatemala	854430.0000	13%	5.33%	2026.01.01
China	854430.0000	13%	0%	2024.01.01

Source) Customs Law Information Portal. (2024); FTA powerhouse, KOREA. (2024); FTA agreement and basic documents

¹ Effective date of the FTA: Nicaragua and Honduras(Oct. 2019), Costa Rica(Nov. 2019), El Salvador (Jan. 2020), Panama (Mar. 2021), For Guatemala, it is assumed in the report that the FTA will come into effect within the year 2024.



Competitive Landscape

The ROK's import of ignition wiring sets in terms of volume points to the conclusion that China, Vietnam and Philippines are the major suppliers. The total import volume reached 122,953 tons in 2022 and about 1,317,906 tons were from the three major suppliers, accounting for 97% of total ignition wiring sets imports. The detailed import statistics in volume from 2018 to 2022 is presented in the table below.

Table 2. Import volume of Ignition wiring sets per country (2018-2022)

(Unit: Ton)

	2018	2019	2020	2021	2022
China	94,830	92,460	84,687	86,450	88,584
Vietnam	3,778	5,757	7,724	11,202	19,756
Philippines	2,346	3,245	9,159	8,734	11,100
Cambodia	1,836	1,731	1,561	1,785	2,266
Romania	22	18	19	299	544
India	71	123	109	138	236
Spain	5	31	35	82	131
Turkye	3	8	5	37	70
Hungary	4	2	15	42	47
Others	243	242	224	167	220
Total	103,137	103,616	103,538	108,937	122,953

Source) Customs and Excise Department import and export statistics (2023). Export and import performance (by item)

Within imported products, China, Vietnam and the Philippines products have most of the market share from 2018 to 2022. This can be attributed to the fact that, unlike other products, the import from the overseas is mainly from Korean manufacturing companies' overseas facilities. This is because of the intricate nature of the labor-intensive manufacturing process of ignition wiring sets, which requires massive inputs of human resources.

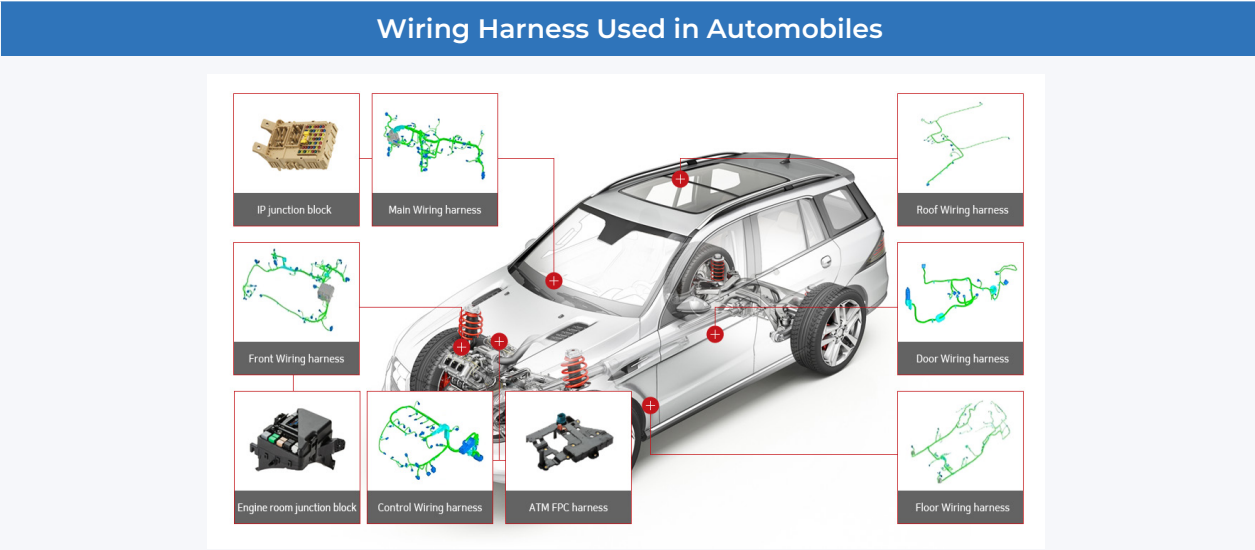


Consumer Preference

Among the ignition wiring sets with HS CODE 854430, the automotive wiring set is commonly used as a wiring harness. A wiring harness is a bundle of wires that connects electronic devices installed in a vehicle. Its role is to supply power to components and transmit electrical signals to control and computing devices.

Approximately 1,500 to 2,000 wires are required for one vehicle, and the ignition wiring set (wiring harness) is a task of tying and organizing numerous wires by classifying them according to type and role. Because the length of wires required for each vehicle is different and numerous wires need to be organized, most of them are custom-made by hand. Therefore, most of the ignition wiring set (wiring harness) business is produced and exported to countries with low labor costs, such as China and Southeast Asia. In fact, as of 2022, Korea's share of wiring harness imports is high in countries such as China, Vietnam, the Philippines, and Cambodia, which are mostly countries with low labor costs.

Figure 3. Wiring Harness Used in Automobiles

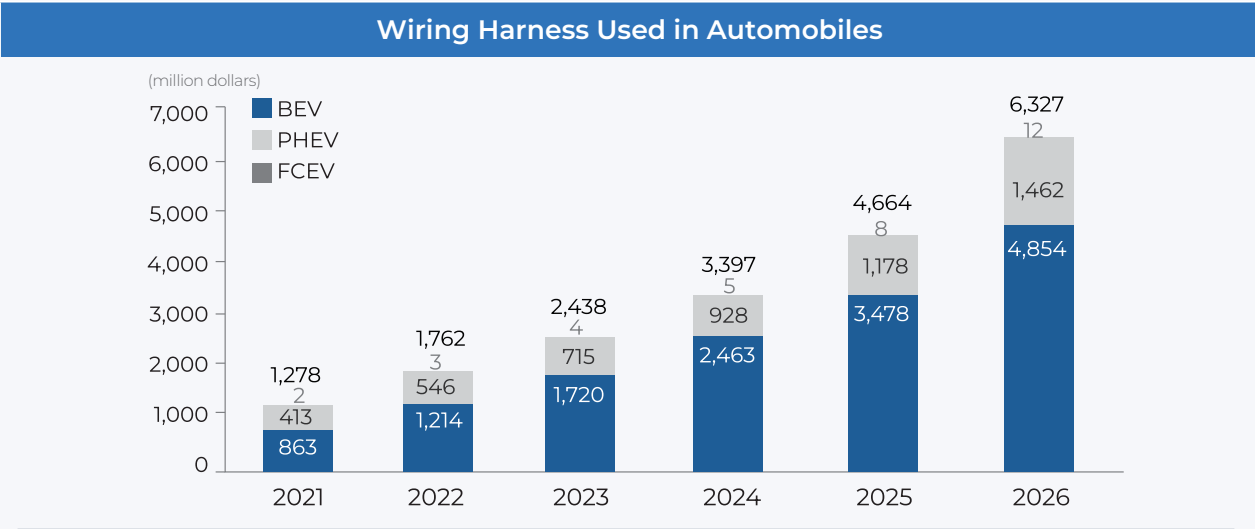


Source) YURA Corp. (<https://www.yuracorp.co.kr/en/rnd/sub02.jsp>)

In the case of electric vehicles, it is estimated that about 30% more wiring is required compared to conventional vehicles, hence the demand for ignition wiring harness sets is expected to continuously increase.

According to market research firm Markets and Markets, the global electric vehicle ignition wiring set (wiring harness) market is expected to grow rapidly at an average annual rate of 37.7%, from \$1.28 billion in 2021 to \$6.33 billion in 2026.

Figure 4. Wiring harness market size forecast by electric vehicle type

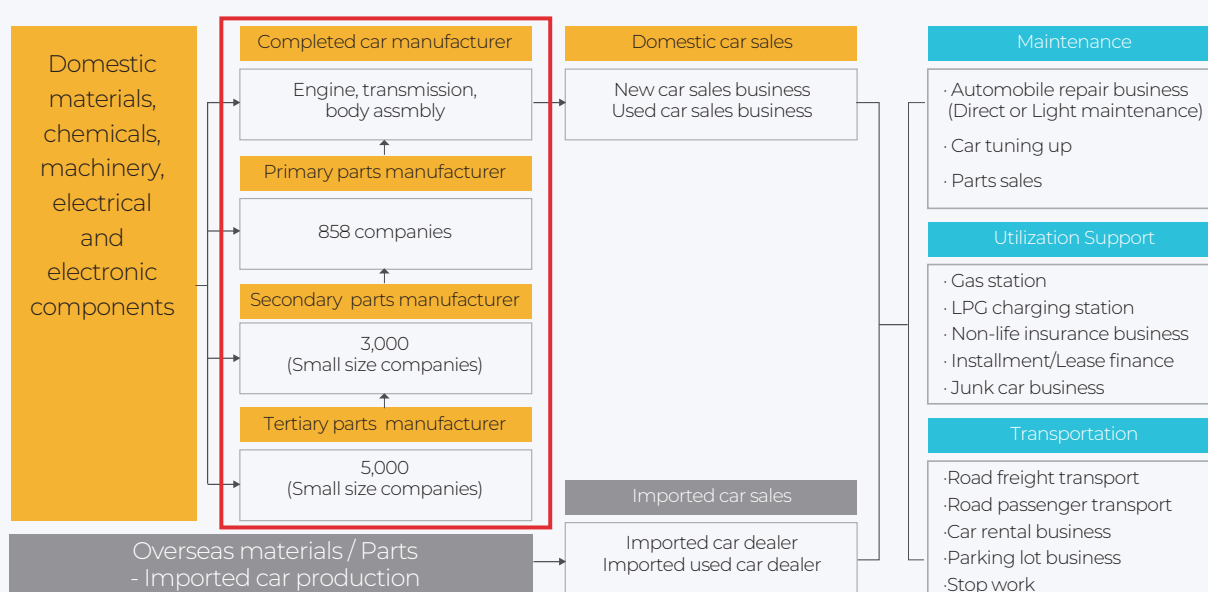


Source) Daewon Cable Market Analysis. Korea IR Council Research Center
Note 1) BEV: Pure electric vehicle; Plug-in hybrid; FCEV: Hydrogen fuel electric vehicle
Note 2) CAGR 37.7% over the next year

The domestic automotive parts industry in South Korea has established vertical integration relationships between finished vehicle manufacturers and their suppliers. Large-scale component companies focus on the mass production of capital-intensive components such as engines, transmissions, and axles. Medium-sized companies produce intermediate products for functional components and precision machined parts (casting, forging, plating, coating, etc.). Small-scale enterprises, which mainly engage in low-volume production, often serve as second-tier subcontractors for large component companies, producing simple processed items (springs, screws, wires, etc.) or replacement parts.

As a result, the market structure is closed, and entering the industry requires prerequisites such as technological capabilities, production capacity, and relationships with finished vehicle manufacturers. In recent times, the globalization of parts sourcing and the entry of large, advanced component companies into the domestic market have made the scale and scope of the economy crucial.

Figure 5. Vertical integration of automobile industry



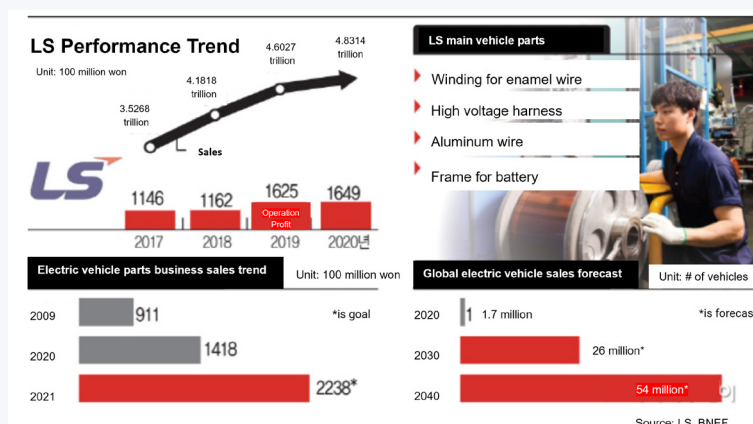
Source Ecocap quarterly report. (2023.09); E-Today. (2020.07); Korea IR Council. (2023.11). Taeyang 3C Corporate Analysis Report

As the functionality of vehicles advances, the required number of ignitions wiring harness sets also rises, with electric vehicles needing approximately 30% more ignition wiring harness sets compared to internal combustion engine vehicles. In recent trends towards electric vehicles and lightweighting, there is a demand for high-voltage ignition wiring harness sets designed for hybrid or electric vehicles and lightweight ignition wiring harness sets utilizing aluminum for fuel efficiency improvements. LS Cable & System, for instance, secured a contract in 2021 to exclusively supply 800-volt high-voltage wires for Hyundai's new electric vehicle, the 'Ioniq 5', and Kia's 'EV6'.

Additionally, due to factors such as vehicle lightweighting, space savings, and strengthened environmental regulations, there is a growing interest in the use of Flexible Printed Circuit Boards (FPCB) instead of the conventional material, copper, for ignition wiring harness sets. Interflex, a specialized FPCB company in Korea, has introduced new products that utilize FPCB instead of the traditional copper material. FPCB-based ignition wiring harness sets can reduce weight by approximately 20% compared to conventional products. Given the significant emphasis on lightweighting in electric vehicles, the outlook for the FPCB market in the field of ignition wiring harness sets appears promising.

Figure 6. Major Domestic Wiring Harness Company

Major Domestic Wiring Harness Company: LS Cable & System



Source) Asia Today. (2021.06)



Main Distribution Channels

Currently, the number of companies producing automotive ignition wiring sets (wiring harnesses) in Korea is estimated to be approximately 100 firms, with Kyungshin, Yura Corporation, and Ecocap being the major companies. While Kyungshin and Yura Corporation have a high proportion of deliveries to Hyundai Motors, EcoCap is known to mainly supply to GM Korea and KG Mobility (formerly Ssangyong Motors).

The market for automotive ignition wiring sets (wiring harnesses) requires the utilization of low labor costs, considering the predominantly manual nature of the work. Additionally, to supply to customers such as complete car manufacturers or primary collaborators, stringent conditions such as engineering expertise, technology, experience, and overseas production facilities must be met. Furthermore, due to the B2B nature of the industry, establishing long-term collaborative relationships and mutual trust is crucial. Such significant entry barriers should be considered as part of the competitive landscape for new companies entering the market.

Table 3. Major ROK importers of Ignition wiring sets

No.	Company name	Enterprise scale	Import value (Unit: million USD)	Industry classification	Major importing countries	Address	Tel	Website
1	Yura Corp.	Midsize business	Exceeds 100	Other automobile parts manufacturing	China, Vietnam	308 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	+82-(0)70-7878-1000	www.yuracorp.co.kr
2	Kyungshin Corp.	Midsize business	Exceeds 100	Automotive electrical device manufacturing	China, Cambodia	98 Gaetbeol-ro, Yeonsu-gu, Incheon, Republic of Korea	+82-(0)32-714-7100	www.kyungshin.co.kr

No.	Company name	Enterprise scale	Import value (Unit: million USD)	Industry classification	Major importing countries	Address	Tel	Website
3	Packard Korea Inc.	Midsized business	50 ~ 100	Other automobile parts manufacturing	China, Vietnam	5-14 Busongsangdeok-gil, Jiksan-eup, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Republic of Korea	+82-(0)41-580-8299	www.packardkorea.co.kr
4	TaeSung Elctro-Circuit Systems	Midsized business	50 ~ 100	Other automobile parts manufacturing	China	110 Osong 1-gil, Seonggeo-eup, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Republic of Korea	+82-(0)41-560-0820	www.tecstar.co.kr
5	Apam Co., Ltd.	Midsized business	50 ~ 100	Automotive electrical device manufacturing	China	91-1, Ungbi Gongdan-gil, Ungchon-myeon, Ulju-gun, Ulsan, Republic of Korea	+82-(0)52-259-8300	www.apam.co.kr
6	Ohsung Electrics Machinery Co., Ltd.	Midsized business	20 ~ 50	Electric motor and generator manufacturing	China, Vietnam, Japan	121, Seobu-ro 1631beon-gil, Juchon-myeon, Gimhae-si, Gyeongsangnam-do, Republic of Korea	+82-(0)55-337-3700	www.ohsung-em.co.kr
7	Daedong System Co., Ltd.	Midsized business	20 ~ 50	Automotive power transmission device manufacturing	China	419 Namdong-daero, Namdong-gu, Incheon, Republic of Korea	+82-(0)32-813-8171	www.dds.co.kr
8	Samas Electronics Co., Ltd.	SMEs	20 ~ 50	Other automobile parts manufacturing	China	6th floor, 7 Ogeum-ro 11-gil, Songpa-gu, Seoul, Republic of Korea	+82-(0)2-3431-5945	www.samas.co.kr
9	Changhwan Precision Terminal	SMEs	10 ~ 20	Manufacture of electrical circuit switching, protection and connection devices	China	19-1, Deokseongsandan 2-ro 6beon-gil, Idong-eup, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea	+82-(0)41-350-8800	www.cpt.co.kr
10	Prettl	SMEs	-	Automotive electrical device manufacturing	Vietnam	20, Hanbatdeul 1-gil, Uiwang-si, Gyeonggi-do, Republic of Korea	+82-(0)31-427-7740	www.prettl.com

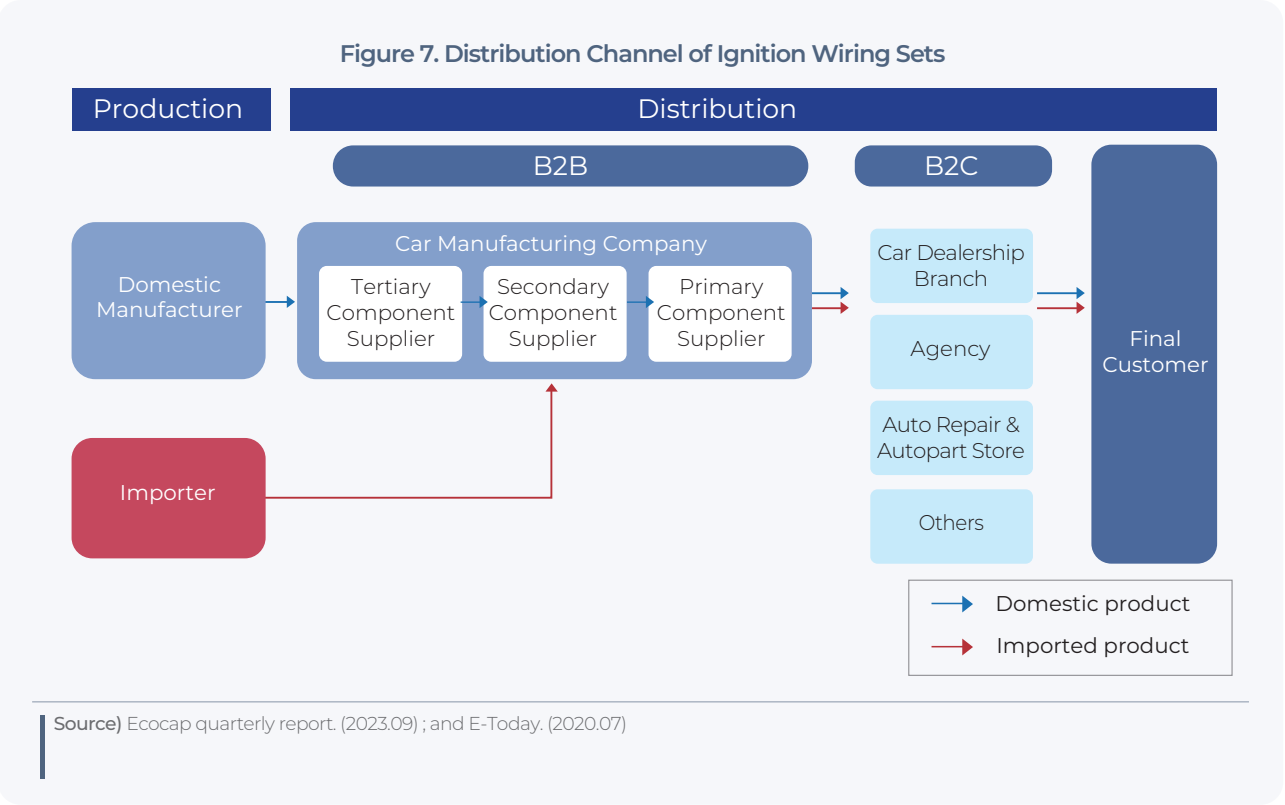
Source) KOIMA (www.koima.or.kr)

The distribution of automotive ignition wiring sets, also known as wiring harnesses, in the Korea follows a vertically integrated structure between completed car companies and their affiliated suppliers. The suppliers are categorized into three tiers, with delivery progressing from the tertiary supplier to the secondary supplier, then to the primary supplier, ultimately reaching the completed car company.

For example, Kyungshin, the largest manufacturer of ignition wiring sets in Korea, serves as a primary supplier, delivering to the completed car company such as Hyundai Motor.

The imported quantities are usually of Korean manufacturing companies' overseas factories. The complex distribution network involves a sequential supply chain, starting with customized production in local facilities and culminating in delivery to the automotive industry players in Korea.

In essence, the distribution process of wiring harnesses in Korea is intricately connected to the production dynamics of both domestic manufacturers and importers. The entire process is characterized by strong business-to-business (B2B) transactions, featuring bulk orders, negotiated contracts, and supply agreements to ensure a streamlined supply and meet the requirements of the automotive industry.





Regulations

Import Requirements

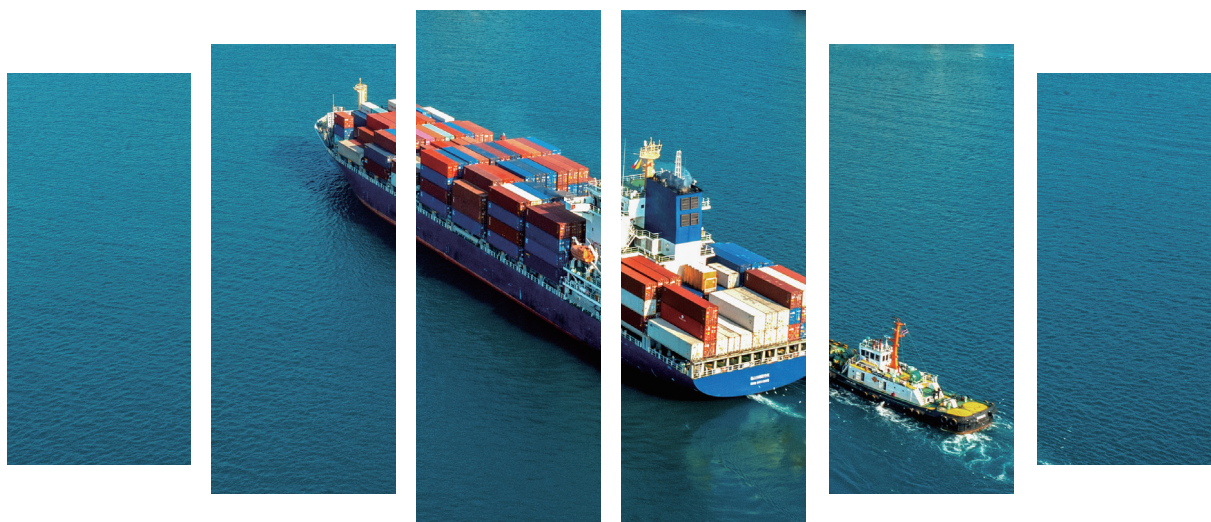
Under the laws and regulations of the Republic of Korea, there are no specific import requirements regarding Ignition wiring sets for vehicles (854430), thereby allowing importation from all countries worldwide.

Import Process

Ignition wiring sets for vehicles can be imported upon the preparation of shipment documents from the exporting country. Based on the shipping documents, after customs clearance process and payment of customs duties, the imported products could be transferred to the importer.

Other Obligations and Cautions

The ignition wiring sets to be sold in the ROK market must be labeled with the country of origin on the minimum retail packaging or container. The country of origin must be marked in Korean, Chinese characters, or English, and must be labeled as "MADE IN [Country Name]". If the product is an original equipment manufacturing (OEM) product, the country of origin must be marked in Korean on the front of the product or packaging or container. The method of marking depends on the packaging area, but it must be marked in at least 12 points font size





SWOT Analysis



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Strengths

The South Korean market for Ignition wiring sets for vehicles shows stable growth projection with growing size of market. According to market research firm Markets and Markets, the global electric vehicle ignition wiring set (wiring harness) market is expected to grow rapidly at an average annual rate of 37.7%, from 1.28 billion USD in 2021 to 6.33 billion USD in 2026.

Most importantly, K-CA FTA would enable CA exporters to enjoy the full tariff-free status and the effective year for the beverage base per each CA country is as follow: Costa Rica (2021), El Salvador (2022), Honduras (2019), Nicaragua (2021), Panama (2023), and Guatemala (2026). The FTA not only reduces trade barriers but also signifies a strategic alignment, fostering sustained growth and collaboration in ignition wiring sets trade between Central America and Korea.



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Weakness

The domestic automotive parts industry in South Korea has established vertical integration relationships between finished vehicle manufacturers and their suppliers. One of the major wiring harnesses companies, Kyungshin and Yura Corporation, supply a high proportion to Hyundai Motors, EcoCap mainly supply to GM Korea and KG Mobility (formerly SsangYong Motors).

Hence, establishing long-term collaborative relationships with promising buyers is crucial for sustained business with Korea, but the oligopoly structure of the market pose challenges for new entrants in the market. In addition, entering the automotive industry requires prerequisites, such as technological capabilities, production capacity, and relationships with finished vehicle manufacturers.



Opportunities

The recent opportunity for automotive ignition wiring sets is mainly attributed to the emerge of electric vehicles. Considering that electric vehicles require 30% more wiring than conventional vehicles, the demand for ignition wiring harness sets is expected to increase along with the forecasted growth of electric vehicle market².

As the ignition wiring set (wiring harness) is a task of manually tying and organizing numerous wires, most of the manufacturing business is produced and supplied from countries with low labor costs. Korea's imports in volume increased from 103,000 tons from 2018 to 123,000 tons in 2022, with imports accounting 41% of domestic demand. However, most of imports are facilitated via Korean companies' overseas factories, such as Yura Corporation and Kyungshin, instead of a foreign supplier.

Understanding this context, it is recommended to partner with Korean companies that occupies majority of the domestic auto parts supply market share, as well as the imported wiring set.



Threats

For ignition wiring sets for vehicles, China, Vietnam, and the Philippines are the Top 3 exporters to ROK as of 2022, and China and Vietnam combined account for around 88 percent of the total import value. Therefore, when Central American ignition wiring sets for vehicles companies who try to expand its export to ROK market, price competition between other origin of imported products is expected to be very fierce.

² According to Deloitte, electric vehicle market is expected to drastically increase from 10% of the total vehicle market in 2023 to 80% by 2030. The global market for wiring harnesses for electric vehicles will experience high growth, rising from \$12.8 billion in 2021 to \$63.3 billion in 2026, with a compound annual growth rate of 37.7%.



Business Case

ROK Market Insights

- Demand and market projection of ignition wiring sets depend on the circumstance of ROK car manufacturing status
- ROK's world renown automobile manufacturing market with promising market projection

Niche

- To partner with importer doing business with ROK leading Car Manufacturing company
- To equip with price competitiveness to compete with major exporters

Cultural Adaptation

- Understand the landscape of Korean major Car manufacturing companies' imports from overseas subsidiary and branches
- Understand the characteristics of ROK automobile market

Strategy Snapshot



- To enhance the visibility and exportability of Central American countries' ignition wiring sets to ROK market, it is recommended to use and participate in the various B2B promotional campaigns hosted in ROK on the preferential basis.
- To foster a successful and sustainable export of Central American countries ignition wiring sets to ROK market, it is recommended to partner with dependable ROK importers who has long-term relationship with ROK car manufacturing companies as final user companies.

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