

Chapter 10

ELECTRICAL COMPONENTS SECTOR

10.1. General description

For the purposes of this report, the electrical components industry is defined to include components used in the **generation, transmission, distribution, or consumption** of electric power. These fall under five sub sectors:

- Power distribution and transformers;
- Switchgears;
- Motors and generators;
- Industrial controls;
- Steam, gas, and hydraulic turbines and turbine generator sets.¹⁶²

Some examples of these components would be relays, contacts, timers, circuit breakers, fuses and wiring accessories. Excluded are consumer electric and electronic devices, such as shavers, radios and components solely produced to be embedded into consumer goods, such as plasma screens, TV and radio antennas or CD and DVD drives. Batteries are also briefly covered in this report.

The electrical components sector is somewhat different from other sectors covered in this study because the items are generally not consumer goods, but items sold to other manufacturers and assemblers. In turn, these items are then integrated into goods for final sale. These could encompass items ranging from generators for power plants to fuses and wiring systems for homes, appliances, etc.

Counterfeit electrical components are generally meant to deceive purchasers into believing they are buying an original item. However, cases in which commercial entities, as well as consumers, have knowingly bought fake goods were mentioned by respondents, and there is evidence that in some markets counterfeit goods are readily recognisable. Given the potential safety risks associated with the failure of sub-standard electrical components, this would seem to be quite irrational behaviour by the users, and must raise concerns about the apparent success of counterfeiters in convincing buyers that fake products are acceptable substitutes for the original items.

162. *Source:* Standard Industrial Classification (SIC).

10.2. Types of infringements

Trademark infringements are the most widespread type of IPR violations faced by the producers of electrical components. In most cases, the counterfeiter independently manufactures low-quality “look-alikes” and then marks them as high-quality brands. These products often do not conform to certification standards, and it is a common technique to buy cheap substitute “generic” items to then re-label and pass off as high-quality (and therefore high-priced) originals.

Patent infringements occur, but do not seem to be as common as trademark violations. It is not certain whether this is because there is a low-level of infringement or due to the fact that patent infringements are harder to detect. Also, patent infringements are costly to pursue, especially in countries in which IP rights are not yet sufficiently protected, and this may not only discourage some manufacturers from patenting their technologies, but may also discourage them from pursuing the less serious breaches.

Some respondents to the OECD survey noted that a large number of counterfeit products are not being marked with brand logos to avoid direct infringement of intellectual property rights. Instead, the counterfeiters imitate the technology and the look of the products, which are sold at close to full price with the inference that they are originals. While this practice may be of concern to companies, strictly speaking it does not represent a trademark violation, although the products may infringe patents or designs if these are registered.

10.3. Products most affected

The electrical components industry indicates that counterfeiters have focused on low cost, non-complex items, such as circuit breakers, fuses, switchgears, distribution boards and wiring accessories that can be easily mass produced with relatively little input (no advanced machinery, no specialised labour force, etc.). This provides them with the opportunity to receive a high return on investment since the mark-ups on branded products include significant costs associated with marketing, certification and research and development.

Also, industry responses and customs data indicate that while the counterfeiting of large pieces of equipment is not unheard of, counterfeiters tend to focus on relatively small items that can be easily transported in large quantities by truck or in containers.

Another type of counterfeiting action involves the production of electrical products that look similar to several well-known brands, and which can be labelled with different company logos without modification of the item. This increases the complexity of the supply chain for the individual brands, and makes it harder for investigators to trace back the fake items. This ploy also reduces the risk of confiscations in those countries where seizure orders have to be issued for each brand separately. Since investigators operating in these countries often only carry documentation for one brand, the remainder is frequently left untouched.

In common with other industry sectors, the electrical components industry claims that many products bearing unauthorised trademarks are not in the portfolio of the trademark holder. One respondent reported several incidents in which labelled goods unconnected with his business were intercepted. In other instances, devices in which the design belonged to one company had been copied and labelled with a trademark from a different company.

Box 10.1. Batteries: one of the world's most consumed items

Dry cell batteries (excluding wet-cell batteries used for automotive, marine and aviation purposes) are widely used as energy sources for mobile phones, laptops and other electronic and mechanical devices, including some items used for medical purposes.

It appears that there are significant problems with potentially dangerous, sub-standard counterfeit products, especially for the popular AAA and D-sized alkaline batteries. The National Electrical Manufacturers Association (2004) reports that a retail market sampling conducted by the battery industry in 2004 suggested annual estimated sales losses (domestic value) due to counterfeiting of USD 12 million in the US, USD 4 million in South America and USD 7 million in Europe.

US customs data show seizures of fake batteries with a domestic value of USD 2.3 million in fiscal year 2004, representing 2% of overall seizures made in that time period (US Customs and Border Protection and US Immigration and Customs Enforcement, 2006). One respondent to the OECD questionnaire noted that 34 million batteries carrying its brand name had been seized in 2004, of which over 3 million came from the US, over 15.5 million from China the remainder from the rest of the world.

The statistics for 2005 suggest an upward trend in US seizures, since over 7.3 million batteries of this particular brand were seized in the first half of 2005, while numbers for the rest of the world had declined.

The principal safety risk associated with poor-quality batteries revolves around the adequacy of venting. Quality batteries of almost any type contain a vent designed to release internal pressure within the battery in case of a malfunction or misuse. Fake batteries often do not contain this vent. If pressure is generated inside a vent-less battery, it cannot escape, resulting in an explosion. Also, poorly constructed fake batteries are prone to leakage of electrolyte, which can occur at any time during the life of the battery.

Battery electrolytes are potentially harmful to body tissues as well as damaging to many commonly used materials and circuitry in electronic devices, and reputable battery makers take great care to design products where leakage is essentially prevented. In addition, counterfeit batteries have been found to violate environmental regulations as some contain mercury, which appears to have been intentionally added in violation of US and EU laws and regulations.

Finally counterfeit batteries are sometimes slightly larger or smaller than their genuine counterparts, which makes them impossible to fit properly into devices. This has been reported especially for mobile phone and laptop batteries.

Trademark violations are the most common type of counterfeiting in the battery business, especially concerning batteries as consumer goods.

Reference:

NEMA (National Electrical Manufacturers Association) (2004), "Dry Battery Counterfeit White Paper", www.nema.org/gov/anti-counterfeiting

In addition to the products themselves, the electrical components industry expressed concern about the possession and unauthorised usage of printing plates, printed labels and packaging (including holograms and certification marks) for sale to factories producing the fake goods. Although the monetary value of such labels or printing plates is relatively low, their real value is in the fact that a (so-far legal) “look-alike” good becomes a counterfeit when the brand logo is added without the permission of the stakeholder.

In some jurisdictions (*e.g.* North America) the mere possession of labels and tools bearing counterfeit and infringing marks is not against the law. However, trafficking in, or engaging in commerce in labels, packages, containers and the like, bearing counterfeit or infringing marks is an infringement. And possession of such labels and tools can be evidence of trafficking or engaging in counterfeit commerce. In most jurisdictions, if trafficking is uncovered, labels and tools can be seized.

10.4. Modes of operation

Reports on industry investigations, according to respondents to the OECD study, indicate that much of the counterfeiting of electrical components is carried out by registered companies. These firms operate like normal companies, with relatively modern infrastructures and equipment, which in addition to producing counterfeited items often also produce goods under their own brand name, support their own web pages, exhibit “their” products in fairs and conventions (*e.g.* the Canton Fair in China) and even possess a marketing division. It has been reported that some of these companies are authorised manufacturers of genuine products and utilise surplus capacity to manufacture counterfeited products, sometimes of an inferior quality, but nevertheless equal in outward appearance to the genuine product. To an outside observer, they seem to be legal contractors of the brands they imitate.

In addition, goods are also fabricated in “underground” factories, where the production and storage of the counterfeited goods take place in crude facilities that can be relatively easily relocated to avoid detection. In the view of the industry, in recent years there has been a steady drift from large factories to smaller, unlicensed units, so that orders can be split into smaller consignments to reduce the risk of an entire order being seized.

As to distribution, in addition to straight transport using normal transport routes (with owners expecting little risk of inspection because of the generally harmless nature of the products) respondents also noted the legal export of component subsets (to be embedded into the final product) to destination or transit countries, where they would then be assembled into the final product, labelled and then further distributed for sale. China has been especially mentioned as a major exporter of subsets, particularly to Africa.

Because the subsets in themselves are legal, customs authorities can rarely take action against them, unless there is clear proof that they will be transformed into counterfeited goods. The view of respondents was that this is a way for counterfeiters to secure their supply channels, but it does also mean that final preparation of the fake items would have to be carried out in the destination country, which may provide authorities with some opportunities to apprehend them.

Because electrical components are generally sold to intermediate manufacturers or institutional end users (rather than to private individuals as is the case with more consumer-oriented products), counterfeiters generally need to devise ways of breaking into the legitimate supply chain within their sales markets, and this is done in a variety of ways.

One respondent noted that the most common way to sell the items is to mix genuine and counterfeited goods in a significant but limited proportion in wholesale and retail stores, since this lowers the risk of the fake goods being detected. For the counterfeiters, this maximises their profit margin since the fake goods are being sold at full price, next to genuine goods.

In other cases, the counterfeiters try to market their fake products through traditional wholesale channels that supply major commercial users (*i.e.* manufacturers, construction firms, etc.), although breaking into the relatively tightly controlled formal supply network might not always be easy.

The Internet also provides counterfeiters with the possibility of selling their goods in a cheap and relatively safe way. One respondent notes three types of disposal channels for counterfeited electrical components:

- Web pages operated by exporters in source countries displaying counterfeited goods as genuine items and selling them to retailers in target markets.
- Web pages operated by importers in target markets selling counterfeited products to consumers in these markets over the Internet.
- Bidding sites in which anonymity allows counterfeiters to sell their products with relatively low risk.

The advantages of using the Internet, even though yields to the counterfeiter might be lower, are obvious. There is no paperwork proving the origin of the goods, except the address on the Internet page. For properly documented small consignments, the chances of inspection by customs are small, and direct shipment to the buyers provides an easy way of transportation. The transactions are carried out across jurisdictions, which complicates legal and remedial action even if the counterfeits are detected.

10.5. Factors that drive production and consumption of counterfeited electrical components

This section examines various factors that drive the production and consumption of counterfeited electrical components. Each product sector has its own peculiar characteristics that will in part determine and shape those drivers, and the recognition and understanding of these drivers can provide insights on the propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the propensities could provide important insights into how surveys and economic modelling could best be used to improve measurement.

Please refer to the summary table at the end of this chapter (Table 10.1), “Propensity to produce or consume counterfeited electrical components”. The drivers that are considered to apply to the electrical components sector have been compiled on whether, and to what extent, they are favourable or unfavourable for the production and consumption of these counterfeited goods.

The characteristics of the electrical equipment industry suggest that even though there are some problems for the counterfeiters, this would still be a relatively attractive market for them. On the producer side, counterfeiting seems to be attractive as the market is large and profit margins are also relatively high. On the other hand, the risk of detection and difficulties in penetrating established distribution chains are limiting factors. On the purchaser side, the market for “non-deceptive” counterfeits is seen as low, given the high safety risks and the risk of purchasing low-quality items, although it reportedly still occurs. The majority of purchases of fake items would be a result of the buyer being deceived as to the true nature of the goods.

10.6. Magnitude and scope of infringements, and trends

Information provided by the industry suggests that counterfeiting is a substantial problem in the electrical components sector. The respondents to the OECD survey have suggested a steady growth in both the quantity and geographical scope of counterfeiting. A critical area over the past three to five years has been Africa, where the industry believes an estimated 25% to 75% of the mass-produced electrical components market has been captured by counterfeited goods.

Zones with existing problems, where counterfeited goods are capturing increasing market shares are Asia (especially China, where 10% to 40% of the market is believed to be composed of counterfeits), the Middle East (20% to 40% counterfeit) and Eastern Europe (10% to 40% counterfeit). The UK, India, Ireland, Italy, Spain and Portugal have also been mentioned as being subject to a significant and increasing presence of trademark or patent violations. Australia, France, Germany, the Netherlands and the Nordic countries are reported as not being substantially affected by counterfeiting.

Particularly noteworthy is the increasing tendency towards counterfeiting in South America, where links with organised crime have been mentioned, along with linkages between counterfeiting groups and the drug trade. One respondent noted that in many cases there has been a marked shift from the very risky trade involving drugs to the trading of counterfeited goods, including electrical components, which presents significantly lower risk to organised criminals. This perception is consistent with similar reports from other industry sectors.

As far as source countries are concerned, China is reported to be the leading supplier of counterfeited goods in the electrical components sector. Although counterfeiting is taking place in the entire country, Guangzhou and Wenzhou have been mentioned as principal production areas. Guangzhou is the largest and fastest-growing industrial and foreign trade centre in southern China, and every spring and autumn hosts the China Export Commodities Fair (also known as the Canton Fair), which is the largest exhibition of this kind in the world. The electrical components industry regularly examines this Fair for exhibitors that show counterfeited items, and they report numerous violations of IP rights on every occasion.

Respondents also noted that products manufactured in China are typically either shipped or transported by air directly to “importers” in different countries, which then sell the products through local distributors. The second channel includes the usage of a transit point. This gives the counterfeiters the possibility of concealing distribution channels by simply changing delivery companies or splitting the load into smaller parts, to be then shipped to different countries using different delivery services and modes of transportation. Such transit points are the Middle East (Kuwait and Saudi Arabia have been mentioned most frequently) and a few African (Kenya, Tanzania, Uganda) and European (Italy, UK, Ireland, Malta, Poland) countries.

10.7. Effects of counterfeiting in the electrical components sector

Since electrical components are not generally consumer goods, the immediate effects of counterfeit products are likely to fall on the manufacturer of the genuine product and the firms that buy components and integrate them into products for sale. Subsequently, consumers are likely to be affected if goods containing the counterfeit components fail (for example an electrical switch used in house construction that starts a fire).

For producers of the original items, the effects are two-fold: sales losses and pressure on prices. As to sales losses, if the counterfeited electronic components are meant to deceive the purchaser (which is most often the case), it can be assumed that every counterfeited item bought is a lost sale for the producer of the original item, since the purchaser has bought an item assuming it to be genuine. However, as has already been mentioned, in some countries purchasers seem to knowingly buy counterfeited items. In this case, it is uncertain whether the purchasers would have bought the genuine item if the counterfeit product had not been available, or whether they would have opted for a different product. Nevertheless, to different extents both cases represent lost sales. Lost sales worldwide are estimated by the European Electrical Installation industry to have ranged between EUR 2 and 4 billion in 2005 (based on retail value).

With respect to the pressure on prices, the calculation of the final price of a product includes a substantial portion for design, quality management, ensuring that the product conforms to certification standards as well as investment in research and development and marketing. Counterfeiters do not have such commitments, and they often use low-quality materials, as well as very cheap labour parts, for the fabrication of the products. Also, the avoidance of taxes can increase the profit margin. Therefore, the imitation of a well-known, genuine quality product can be sold much more cheaply (30% to 50% was mentioned by one of the respondents) while still yielding the counterfeiter a good profit margin.

For the intermediate and final consumers, financial losses are incurred when the fake component causes a defect of the product in which it is embedded. This will then lead to costs for the consumer as well as the producer of the device if it is under guarantee. In addition, intermediate consumers can experience damage to their brand names, and this was one of the most often mentioned negative effects. Of particular concern for the manufacturers of end-products for retail sale is that consumers would not (indeed could not) be aware that a faulty component had been unknowingly used by the manufacturer, who believed it to be an original component; inevitably it is the manufacturer’s brand-name reputation that pays the price.

Safety is also a potential major issue associated with the widespread use of counterfeited electrical components. Many fake electrical items are of low-quality and may not perform satisfactorily, and in some cases they could malfunction in ways that could cause injury or death. A circuit breaker, for example, is intended to stop the flow of electric current in a suddenly overloaded or otherwise abnormally stressed electric circuit, and its performance is dependent on the calibration made during the manufacturing process and the material quality of its components. Counterfeited circuit breakers have been found to be incorrectly calibrated, and/or constructed using low-quality materials, which could result in a malfunction. Incidents involving below-quality components, especially those used in the belief that they were original items, could result in heightened risk of electrocution or fires.

10.8. Countermeasures taken

10.8.1. Industry co-operation

In the electrical components sector, actions have mostly been taken by industry associations, such as: the French Association of Electrical Installation Manufacturers (DOMERGIE); the National Electrical Manufacturers Association (NEMA); and the British Electrotechnical and Allied Manufacturers Association (BEAMA). An extensive internal reporting policy (including an intranet database) among the members of the associations and within the associations themselves has been established to monitor developments in counterfeiting. One of the aims of this initiative is to also address the problem of counterfeiting being perceived as a crime that cannot be combated efficiently, and therefore the investments made to support anti-counterfeiting efforts and actions are wasted.

The associations also function as lobbying entities to influence and advise governments and to establish and strengthen contacts with other bodies, such as customs and certification authorities, anti-piracy organisations, trade fair organisers and wholesaler associations.

10.8.2. Training and public awareness

Increased educational efforts have also been mentioned as a major issue. These include courses for customs officials to improve their ability to identify fake electrical components, public campaigns against counterfeiting, and advertising actions during trade fairs to warn exhibitors showing counterfeited goods. Respondents have noted positive effects resulting from these actions, especially those involving custom officials.

One respondent noted a positive outcome from using the media as a means of increasing public awareness and educating people about the negative effects of counterfeiting. It seems that counterfeiting is no longer an ignored topic, and is widely addressed by public comment as well as detailed, analytical case studies. However, according to the industry, here, too, it appears that media interest in the electrical components sector is being eclipsed by the more high-profile sectors, such as pharmaceuticals, car and aircraft parts and tobacco products.

10.8.3. Technology

Another measure taken against counterfeiting is the adoption of technical methods for product identification, as well as special packaging. An example of a current system is that employed by the members of the French DOMERGIE group. NOTACOPY, an authentication system based on the secret and unique numbering of each legally produced item, enables the purchaser of a good to immediately verify whether or not the item is registered as a genuine product. The verification is free of charge and accessible through the Internet. The purchaser of the item also has the opportunity to enter his/her address and the address of the retailer. The information collected through this system allows producing companies to identify the region where fake goods have been detected, and can indicate the level of counterfeiting in different regions throughout the world (SARL Notacopy.com).

10.8.4. Facility relocation

A more strategic approach mentioned by the industry is the relocation of production facilities close to recognised counterfeit hotspots. The argument for this is that not only are the costs of production reduced, since manufacturing of fakes usually takes place in low-cost countries, but that the presence of stakeholders in these regions may also disrupt counterfeiting activities, due to the increased risk of the counterfeiter being detected.

However, this strategy may also cause an opposite effect. Some contracted suppliers to well-known members of the electrical components industry have been reportedly selling production over-runs in the “grey market”, and possibly violating patent and/or trademark rights by selling original items marked with their own brand. One respondent mentioned that some of the formerly contracted companies have now become official producers themselves, producing the same items they used to produce for genuine manufacturers, yet marked with their own brands. These companies even invest in R&D and intellectual rights protection to secure their own goods from being counterfeited.

10.8.5. Marketing strategies

Another method used by genuine manufacturers to make the counterfeiting of their products more difficult, is to frequently change their product designs. However, the effects of such changes are time-limited, because as soon as the newly introduced design becomes known, counterfeiting will reappear. In addition, this strategy has no effect for the low-end market segment where basic functionalities and low pricing are the critical factors.

10.8.6. Enforcement actions

Eventually, field actions organised by associations as well as single industry members are the tools principally used against counterfeiters. For this industry sector, the advantages are: 1) relatively low costs (about USD 210 000 for a six-month operation has been reported); 2) relatively efficient, discrete treatment of the counterfeiting problem; and 3) no long-term commitment to actions in specific regions, since investigation teams are mobile.

Also, the lack of effective IP rights protection in some producing economies, and the large number of repeat offenders, have led brand owners to the conclusion that the best way to combat counterfeiters is to continually raid and seize as many products as possible, which would hurt the infringers financially. These actions are undertaken on a case-by-case basis, in co-operation with government enforcement agencies, to encourage the use of criminal proceedings, instead of the generally less-effective civil action.

An example of successful anti-counterfeiting initiatives indicating the dimension of counterfeiting and piracy in this industry is the recently launched coalition of several electric manufacturer associations, including the French DOMERGIE and the British BEAMA. A number of anti-counterfeiting operations in China, Africa and the Middle East have been carried out within the framework of this initiative. The number of items confiscated by private investigators in co-operation with law enforcement agencies exceeded 10 million products between 2001 and 2005 (over 150 factories raided), including one four-month operation in China, in which 220 000 switchgears, 125 000 power sockets, 1 900 circuit breakers and 260 000 wiring accessories were seized.

10.8.7. Co-operation with governments

As far as governments are concerned, the opinions of respondents to the OECD survey differ as to the level of help they can expect from government authorities in actions against counterfeiting in the electrical components sector. One concern expressed by industry was the perceived lack of co-operation between governments and enforcement agencies to address the problems associated with trans-border counterfeiting activities.

The EC was given special mention for its support of anti-counterfeiting programmes, but the sense in this industry sector remains that other products, like pharmaceuticals, are more likely to receive priority. The United States was also reported as having been helpful in targeting electrical products for surveillance and prosecution, and was also considered by the industry respondents as also having taken some useful initiatives against counterfeiting in general.

Respondents also noted greater awareness and engagement by China and the Middle East countries in enforcing anti-counterfeiting measures, but as yet the level of IP protection is still considered by the industry to be insufficient in those locations. The experience in South and Central America has also been that government agencies have proven to be helpful when cases are brought to them. On the other hand, various African countries were named as being very hard places in which to enforce IP rights, due partly to insufficient IP laws and a lack of awareness by local governments.

As a general observation, respondents in this industry sector have noted that developing countries are likely to take action and provide assistance, if the stakeholder delivers information and proof on counterfeiting activities. However, the lack of public awareness, poorly educated customs and enforcement officials, as well as the perceived low risk of counterfeiting when compared to other illegal activities, all hinder the successful combating of counterfeiting in this sector.

Also, one respondent noted that the time and expense of criminal enforcement can serve as a deterrent to some governments and their agencies.

Table 10.1. Propensity to produce or consume counterfeited electrical components

FOR PRODUCERS	EFFECT ON PROPENSITY TO PRODUCE
<i>Market characteristics</i>	
Unit profitability	<p>The industry claims that fake goods are being sold about 30% to 50% cheaper than their genuine counterparts, if counterfeiters do not intend to deceive the purchaser. This implies that the profit margin is high, giving counterfeiters considerable latitude in pricing their products. Where the products are deceptive, then profit margins can be even higher.</p> <p>Even when the costs for packaging and labelling are comparable to genuine products, the differences in production costs are due to the low-quality of the technical parts used, as well as the lack of R&D, certification and marketing.</p>
Market size	Electrical components are widely used, since they are components in the manufacture of consumer electronics and other, specialised electronic devices, as well as in the construction industry. However, they are not generally considered as consumer goods.
Genuine brand power	While there are some very well-known brand names in electrical components, these are not consumer items, and brands have less attraction here than in other sectors. The exception might be when a brand name is also known to meet necessary specifications and standards, which would increase the market value of the counterfeits.
<i>Production, distribution and technology</i>	
Production investment	Electrical components do not require a high investment, as counterfeiters concentrate on producing simple devices, where the most important factor is the appearance and labelling. Production most often takes place in underground factories and does not require expensive machinery or skilled labour.
Technology	Generally no sophisticated technology is required for the production of most counterfeited electrical components. Some technology may be required for production of some of the more sophisticated components.
Logistics	The established transport and distribution channels can be risky (from a detection perspective) whenever they cross national borders, and because the items are shipped in large numbers they can also be bulky. However, the traditional channels remain the preferred choice for most counterfeiters, who rely on the relatively innocuous nature of the products to escape close examination.
Marketing and sale	As items that are basically used as components in end products, these items need to be infiltrated into established distribution chains, which could be difficult.
Ability to conceal operations	Some fabrication and production facilities needed, which could be difficult to conceal. However, machinery could be used for other purposes to disguise counterfeiting activities.
Ability to deceive	As it is impossible to detect low-quality items in electrical equipment without technical examination, the appearance of the item, the label and certification mark, as well as the packaging, are the principal factors of deception. As stated by respondents, the production of these items does not pose any problems to counterfeiters. The only variable to then indicate a good as being counterfeited is the price, which can also be controlled.
<i>Institutional characteristics</i>	
Risk of discovery	<p>The risk of detection is considered by the industry to be relatively high, principally because of their efforts in combating counterfeiting. The industry noted improvements in reduced counterfeiting of some brands in some countries.</p> <p>However, some respondents considered government anti-counterfeiting measures to be insufficient (or in some cases non-existent), especially in developing countries. This facilitated the work of counterfeiters.</p>
Enforcement	It appears that the risk of prosecution (as opposed to the imposition of fines and the seizure of goods) is very low, especially in developing countries. Therefore, this is not a major barrier for counterfeiters.
Penalties	<p>Legal action under criminal law in China, the USA and the EU could (in theory) result in substantial penalties due to safety risks associated with potentially defective fakes. However, in practice counterfeiters seem to face only minor penalties if sentenced.</p> <p>Even the seizure of plant and equipment and stock would result in high, yet not crucial costs for the counterfeiter.</p>

FOR CONSUMERS	EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS
Price	<p>This point contains two aspects. On the one hand, purchasers are deceived by almost perfect imitations, and would buy the items believing them to be the original items. In these instances, none of the other drivers would have any relevance.</p> <p>On the other hand, some characteristics of the electrical components (such as where they are sold, or unexpectedly low prices) may suggest that the good is counterfeited.</p> <p>In these instances, the purchasers would have made some judgments about the utility of the items, including the importance of the price, and the possible belief that they would be “good enough” for their purposes.</p>
Quality and nature of products	Items are used in construction and as components in the manufacture of other goods. Industry experience is that generally they appear visually similar to the originals but are fabricated from lower-quality materials.
Ability to conceal status	The image of goods being counterfeited would not influence the decision to purchase the item.
Consumer characteristics	
Health concerns	Health risks are not factors in this sector.
Safety concerns	Safety risks associated with fake items should be a very strong negative factor, but the lack of understanding of those risks, or the belief that the items would perform acceptably, or the attractiveness of the prices, or a combination of all of these, may diminish the weight that buyers give to this important element.
Personal values	The potential safety implications of using counterfeited components should be a factor for consumers, but no indication of whether this is the case in practice.
Institutional characteristics	
Risk of discovery	The likelihood of detection is low since governments and the electrical components industry concentrate on suppliers rather than purchasers.
Risk of prosecution	The likelihood of being prosecuted is very low, since the generally deceptive appearance would probably act to turn the purchaser into a victim.
Penalties	The penalties on purchasers, even if prosecuted or facing private legal action, are likely to be low.
Availability and ease of acquisition	As many components are specialised, and intended to be used in the construction industry, or in the manufacture of end-products (such as generators), they are generally distributed through normal supply chains, which could be difficult for counterfeiters. This may act to limit the extent of their availability to consumers.

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