

Counterfeiting in the electrical sector worldwide

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Main Facts

Huge global business

- More than 1000 Billion USD/year with half of the products moving through international trade channels
- Nothing is safe from counterfeiting
- Electrical goods: second place now after pharmaceuticals
- Financed organized crime
- 80% of consumers purchase fake products according to International chamber of commerce
- Huge economic impact: less foreign investment, more social costs, less employment

Main Concerns

Like a cancer grows....

- 1000% growth in last ten years
- Moved from the handicraft to the industrial stage
- Significant risk for health and safety of the consumers
- Perfect money laundry machine for crime organisations and terrorists: less risky than other traffics
- Allows same organisations to take control of whole economical sectors in some countries
- Serious attack to the business as a whole: market volume loss, market price jeopardized, and product liability problem

Counterfeiting worldwide

**>1000 Bio USD per year
and 10% growth yearly**

**15% to 30% chinese
industrial production**

8 % Chinese GDP

3 to 5 million Jobs in China only

2,5 million jobs required for an efficient global anti-counterfeiting strike

Loss of 100.000 jobs in Europe



Counterfeiting worldwide

- **80% counterfeited products from China (Guangzhou, Shenzhen in particular)**
- **Turkey is also a large producer (automotive)**
- **Entry ports for Europe/ Africa**
- **Romania/ Bulgaria/ Beyrouth**
- **Main transfer platform: Ukraine (Odessa- the 7° Km)**
- **Many stop overs before final destination to avoid tracking**



Electrical goods: 2° place now!!

Fuses
Cables
Circuit breakers
Household equipment
Professional work tools

Very often
Appearance & packaging are
very convincing



**One fake component =
huge liability!**

- Fires , explosion risks
- casualties
- Serious property damages
- Unpredictable financial liability

**For manufacturers, installers,
employers, importers**

- Can void guarantees for entire systems
- Responsibles for incidents and accidents

Copper and counterfeiting

- Copper industry (producers, transformers and associations) are more and more concerned about counterfeiting, worldwide.
- Soon or later, members of Copper Alliance and their customers will be confronted to the problem, and specially in markets, less controlled, less mature and organized and where their experience is limited.
- Copper Alliance and ECI have the objective to inform and give support against counterfeiting referring to cases and practices of countries all over the world.
- The presentation will introduce here cases in different areas all over the world.

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World review

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Africa



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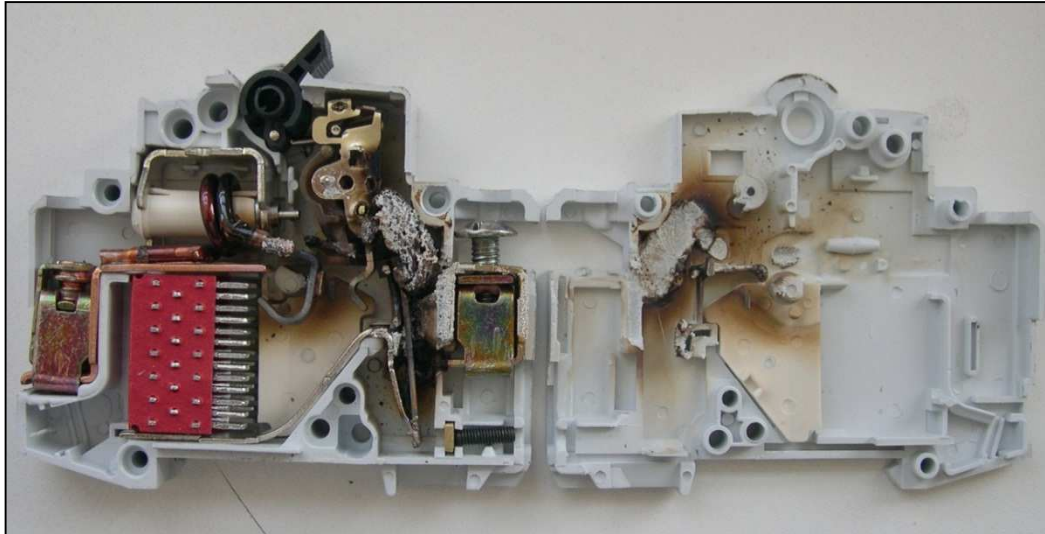
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Global Situation

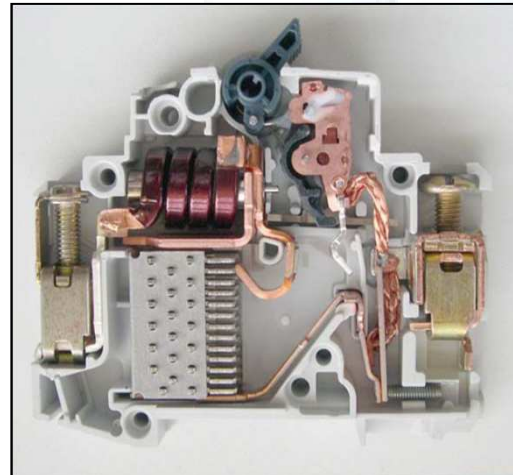
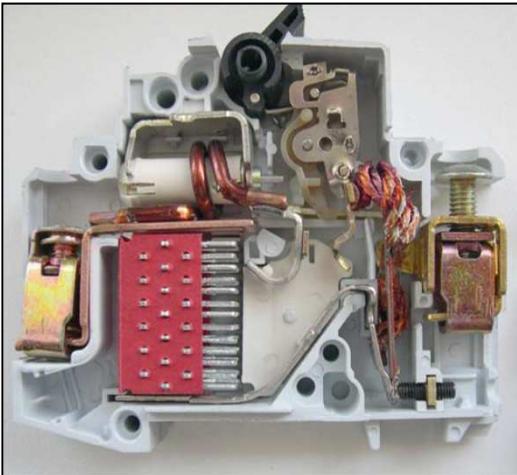
- Corruption, porosity of the borders and lack of standards are the main catalysts of the counterfeiting of electrical products in Africa.
- Fast growth of consumption (Sub saharian Africa and North Africa have average growth of GDP > 5%), but legal frame around trade is insufficient or not existing.
- Informal economy (uncontrolled distribution by street vendors and underground industry) is flourishing in all areas fueled by Chinese offer.

Global Situation

- The amount of counterfeited goods are constantly increasing the delays at clearing of imports at the sea ports. In Nigeria, large players such as Nexans Kabelmetal, Cometstar, Coleman wire and cables are stuck by incessant counterfeiting of cables and delays at sea ports.
- Last but not least, a lot of accidents and fires are experienced in workshops and dwellings due to the very low quality of the counterfeited material.



No Comment...



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Counterfeiting cables: typical situation

	typical available counterfeited
Copper wire 1,5 mm ² - following AFNOR (French standards)	Material: copper clad aluminum 0,15mm ² section Delivered in boxes
Copper wire 2,5mm ²	Material: copper clad aluminum 0,21mm ² section In boxes

Counterfeiting cables: typical situation

- SCHNEIDER ELECTRIC: one of three switchgear is a copy.
- Only few large manufacturers but unlimited amount of brands.



Senegal



Senegal

- Major issue in Senegal basically being
 - sales of CCA cables as Cu cables
 - counterfeiting products from LCS (Nexans group)
- Many fires in public buildings (hospitals, offices...)
- Conformity controls are not mandatory and hence not efficient
- Counterfeited products coming from China are essentially smuggled via Mauritania
- Main active organisation: PROQUELEC (Promotion de la Qualité des Installations Electriques Intérieures)

Senegal

Several campaigns organized by Proquelec sponsored by Copper Alliance, LCS, Senelec and Alliance Energie

- **2009:** spots on local radios and TV and distribution of leaflets to installors and users
- **July 2013:** Meeting of the working group (FISUEL) in Abidjan in 2013 with the different actors and countries
- **2013/2014:** repetition of former campaign in several areas of Senegal with co-funding of Copper Alliance including interactive radio programs for users, installors and professionals

Senegal

Main results out of the campaigns

- Dramatic decrease of presence of CCA in the local market
- Development of a strategic plan in four main areas Proquelec, members and authorities
- Caution: effect is fading up with the time and campaigns need to be repeated periodically

Senegal

Current battle plan covers 4 main areas:

1. Law

- New law to qualify counterfeiting as a crime under discussion at national parliament
- New custom code including one single custom clearance point (Dakar Port) for electrical material. This will be coupled with a specific training of the custom officers and validated by Veritas

2. Data base

- counterfeited electrical appliances (brand, types, standards)
- Licensed dealers

Senegal

3. Information and sensibilisation of the different actors

- **Users:** (packing, prices, labelling, shops)
- **Installors :** (control of supplier, risks related to potential liability and reputation)
- **Dealers :** (certificates of origin, control of supplier)

4. Conformity

- Organise the whole value chain, with only certified suppliers and installors
- Empower the decree making obligatory the control of the conformity of all electrical installations inside buildings before first use or after renovation

Senegal: Last update

Reunion of all stakeholders

1. A general conference about counterfeiting of electrical material took place end of May in Dakar organized by **Proquelec** with the sponsoring of **Copper Alliance**
2. **Industry (LCS, Legrand, Schneider), installers, training centers, utility, ministry, organisations were attending**
3. Top priorities (beside the topics already mentioned)
 1. Very close collaboration industry and customs (key player)
 2. Creation of an integrated conformity control on the whole supply chain from the manufacturer till the end user.

Kenya

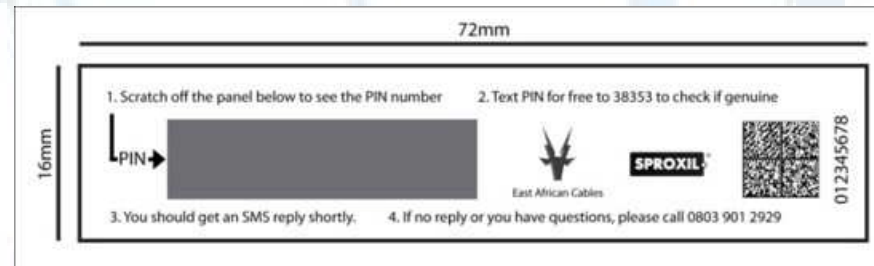


Kenya: ZINDUKA Anti-counterfeit campaign

1. Developed by East African Cables (EAC)
2. All single, flexible and flat cables will have a stick on label placed on the inside core of the roll
3. Consumers will scratch and reveal a 12 digit code which they will sms to a toll free short code number. Immediate response will be received confirming the authenticity of the cable
4. EAC has also created a 24h/24h call center

Kenya: ZINDUKA Anti-counterfeit campaign

Customers are urged to get an official receipt after each purchase.



Brazil



Brazil

Main issues:

- Non conformities – low quality products – unfair competition within the business
- In the electrical conductors market, the principal quality problem is the electrical resistance, caused by copper reduction to obtain lower costs
- Very often, high value alloyed copper cables are replaced by standard qualities

Brazil

Current actions:

- « Qualifio » non profit organisation, founded in 1993 sponsored by 19 manufacturers of electrical conductors and Procobre (Copper Alliance)
- Active in quality control of wires and LV cables of all domestic and imported including members
- Started in Sao Paulo area and now extended nationwide
- Program costs: 200.000 USD/year (covered by the members)

Brazil

Control process:

- Independent buyers are collecting samples from shops and locals traders
- Documentation and samples are sent to Qualifio and tested by specialized and qualified labs.
- Quality assessment of: metallic conductor, insulation and outer sheat.

Brazil

IGQ and reporting

- IGQ= General Quality Index developed by Qualifio, for internal use only.
- In the index , weights are given for the different non-conformities.
- Highest weight is given to the electrical resistance value above the specification.
- Three monthly report sent to INMETRO (national certification entity) where all the non-conformities are indicated.

Brazil

- First results obtained after three years of activity (1996), when conformity certificates for electrical material became mandatory by law
- But nowadays despite of the law, the situation is still very concerning:

Results 2013 (cables)	
Samples tested	509
Suppliers evaluated	84
Certified and in conformity	38
Certified but not in conformity	21
Not certified	25

55% are not conform and suppliers are practically not risking any legal prosecution



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USA



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USA

CCCA:

Communications Cable and Connectivity Association
(manufacturers distributors and material suppliers)

Mission:

- Fact based information on technologies and products to support IT and communication industry
- Communicating and influencing policy and decisions affecting quality, performance and societal needs in the US

USA

White papers about

- Legal liabilities of manufacturers using multi-conductor cables made out CCA
- Three states have been taken as example (CT, VI, FL)
- Liabilities for improper labelling
- The web site has been recently redesigned to provide quick and easy navigation

Mexico



Counterfeiting Statistics in Mexico

Parts	% Market genuine parts	% market counterfeited parts
Fuses	30%	70%
Switches	32%	68%
Receptacles	30%	70%
Plugs	20%	80%
Boxes	20%	80%
Breakers	80%	20%
Loading systems	90%	10%
Control equipment	95%	5%
TOTAL (all parts)	69%	31%

*SOURCE : Camera
Nacional Manufacturas
Electricas*

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Australia



Australia

NECA

- (National Electrical and Communication Association) representing the interest of contractors at all levels of government and industry (5000 businesses as members)
- Australian standards are not mandatory in themselves but stipulated by law
- Prescribed items (MCB's, socket outlets, hair dryers) may not be sold without approval and use of the approval number

Australia

As in Brazil unfair competition within the business:

- Major players are seeking to buy reputable products
- Small distributors have product made for them in China. Sometimes deliberately asking for fraudulent product. Direct contact between distributor to contractors, independent electrical wholesalers and retail store
- Unheard of brand names come into the country with either existing approval numbers or fabricated approval numbers

Australia

Prosecutions in case of fraude are taking place but this doesn't change the situation fundamentally

Authorities are expressing good intentions but no real follow-up, although the several forums organized by NECA since 2004

New regulatory scheme based on EU and NZ certificate system. Australian have to commit about the compliance of the product and not just rely on China source

Japan



Japan

- Broadly speaking , Japan is experiencing important counterfeiting mainly from China (62%), Taiwan (8,1%) but also domestic (12%)
- Ministry of Economy (METI) is organizing actions against counterfeits and pirated products under the laws:
 - Electrical appliance and Material safety law
 - Consumer Products Safety law
- Those laws apply also for the cables

Japan

- As in Brazil, METI is collecting samples from shops and local traders regularly
- Quality controls are performed at:
 - JET: Japan Electrical Safety and Environment Technology laboratories : 3 labs
 - JQA: Japan Quality Assurance Organization
- Further information.....

China



China

- China is largest producer of refined copper (5,8 Million tons in 2012) and also the world largest wire and cable manufacturer. Official figures are indicating a total turn over of 176 Billion USD in 2011.
- More than 7800 wire and cable companies registred in China but nearly 97% are small and medium size companies
- Following the administration, exports only accounts for 3% of the country total production !!!!!

China

- Quality of cables and wires is a real issue in China
 - Electric fires account for 80% of severe fire hazards. More of half of it due to substandard wires and cables.
 - For critical applications (ex: aerospace, nuclear sector), cables are imported!

China

- AQSIQ, created in 2001, is the official administration in charge of anti counterfeiting in China
 - In 2009 a special anticounterfeiting law-enforcement on household electric appliances and electronic products has been established. 52000 manufacturers inspected and 537 cases investigated.
 - A random inspection during 4 months in 2012 by the Quality supervision admin in 10 provinces gave 12% batches of substandard wire and cables products.
 - !



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Europe



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Europe

- European manufacturers and national associations (AFME, ANIE, BEAMA, FIEEC, GIMELEC, ZVEI) have created an activity called MSSI (Market Surveillance Support Initiative) to better support national authorities and with as main objectives:
 - Bring together manufacturers to agree and develop proactive actions/initiatives
 - Improve market surveillance effectiveness and efficiency
 - Consolidate national reporting of unsafe and non-compliant

ABB, Benedict, Eaton, Hager, Legrand, Schneider, Siemens are current participants

CECAPI and CAPIEL are leading the initiative and service secured by Orgalime

Europe

- Key current and future activities :
 - Conformity assessment, cooperation with certification bodies
 - Fight against dangerous products and counterfeits
 - Contributing to market surveillance in the European countries
 - Contacts to EU as an umbrella for national actions
 - Best practice sharing and information exchange within the associations

Europe

Following products fall within the scope of the initiative

- Switchgear and control gear (Capiel)
- Components for electrical installations/ appliances
- Cable management systems Circuit breakers, residual current devices arc fault detecting devices
- Home and building Electronic systems products
- Intercom and Videointercom



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United Kingdom



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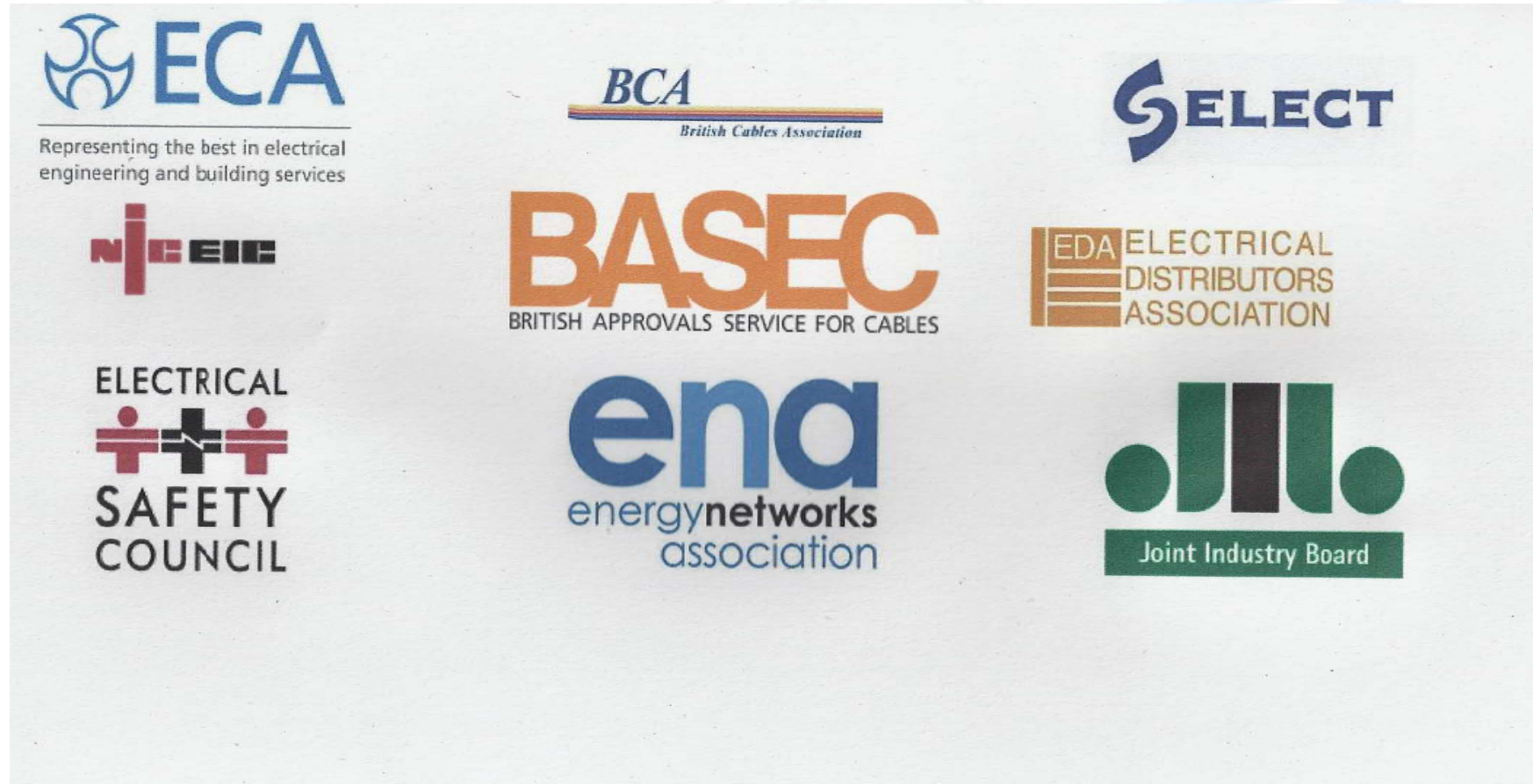
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United Kingdom

The Approved Cable Initiative

- The Approved Cables Initiative (ACI) is an industry-wide working group with supply chain representative bodies that has been established to address the issue of unsafe, non-approved and counterfeit cable entering the UK marketplace
- The first initiative of its kind in the electrical industry, the ACI is direct in its approach to investigate and publicise the findings of cables found to be faulty, counterfeit or non-compliant with British, European or International Standards

United Kingdom



United Kingdom

- In 2010, ACI launched a campaign to highlight defective cabling in UK, with regulator support
- Intensive sampling at distributors and retailers brought significant results:
 - Many defective situations identified in particular defective fire alarm wiring in schools and hospitals
 - Discovered defective cables in 2 «do it yourself» retailers leading to the identification of 20km defective cables supplied by Atlas Kablo to UK
 - Wilko, a large retailer had to withdraw from its shops power cables because not having recognized manufacturer's name. The company decided to change its quality appraisal for branded electricals

United Kingdom

- Cooperation with HSE
 - HSE is an independent national Health and Safety Executive national acting as HS watchdog
 - HSE is carrying visits to wholesalers

- Active lobbying in the political decision makers, to stop defective and counterfeited cables entering the UK market

- Pursue a targeted information campaign in close cooperation with supply chain representative bodies

France



France

ASEC

- In 2008 ASEC was founded with the backing of the French manufacturers, with the aim of contributing to the fight against dangerous products
- As a result of ASEC actions, some brands have disappeared from the market, other improved their quality and more devices are now carrying the NF mark of compliance

Germany



Germany

- Thanks to a very well organised market and supply chain, counterfeiting in Germany remains very marginal (source MSSI/ZVEI)
- For electrical installation and use of electrical material, all the supply chain needs to be certified (licence is required) and all the actors are very careful and disciplined
- In case of infringement, court actions are quickly started and judgements severe

Last investigations: ESFi



Electrical Safety Foundation international

took the initiative this year to organize a survey, among members of organizations that are active in the electrical indus

ESFi: Baseline survey

- ESFi : Electrical Safety Foundation international
- On-line questionnaire to members of organisations active in electrical industry
- 932 completions
- Partners organisations: IAEI, IEC, NAED, NECA and NEMA

ESFi: Baseline survey: key findings

- The majority is concerned (54%) and most respondents (76%) believe counterfeit present a threat to public H&S
- But most respondents don't see it as an « urgent » threat
- Most respondents (71%) were only moderately familiar about the liability
- All agree that anti-counterfeiting education of contractors, distributors and general public is strongly required

ESFi: Baseline survey: key findings

- A strong majority declared not having a process in place to report a counterfeit product
- A majority also declared they follow best practices to avoid counterfeit electrical products in their work
- Distributors are the most mentioned to be best equipped to reduce prevalence of counterfeits
- Lighting (37%), breakers (37%), are the most frequently mentioned type of counterfeited products

ESFi Baseline survey: Overview repartition counterfeiting by products

Products	
Breakers	37,5%
Lighting	37,5%
Ground fault circuit interrupter (GFCI)	17,2%
Outlets	15%
Wires	11,6%
Arc fault circuit interrupter (AFCI)	2,6%
Tamper resistance receptacles (TRR)	0,7%
Miscellaneous	28%

A large, bold, black sans-serif word "Conclusion" is centered on the page. A magnifying glass with a black handle and a silver frame is positioned over the word, with its lens focused on the letters "clu". The magnifying glass is tilted slightly to the right, and its shadow is cast on the surface below it.

Conclusions

- Growth of counterfeiting is tremendous. It can be considered as a factor of the economical growth of China and hence important for the stability of the country
- Market is driven and dominated by standards but....
- Consumers are either not aware or perceive counterfeiting as harmless
- Stopping production and sale is insufficient and enforcement agencies book little result. Most of time, fraude is not really punished
- Political world needs to be more sensibilized and pressurized to develop legislative tools

Conclusions

- Counterfeited products are broadly accessible specially in emerging countries
- Generally people can't financially access to genuine products
- The growth of Internet business is promoting counterfeiting: direct sales and difficult to act against protected portals
- Fight against poverty is essential in many countries
- Information, education and training in a well organised supply chain are key!

Special thanks

- Mauricio Sant'ana : Qualifio Brazil
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- Georg Luber : Siemens, ZVEI , Germany

For their active and very useful contribution



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Thank you for your attention



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