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Trends in the field of burglar resistance

Standardisation, test and assembly

1 Introduction

The burden from burglaries throughout Germany is still on a high level. For several years now, a concept for preventive burglary protection was already developed throughout Germany. Manufacturer of burglar resistant windows, doors or roller shutters, manufacturer of retrofit products as well as qualified assembly and construction agencies have the possibility to be listed at approx. 280 crime prevention offices within the criminal consultation.

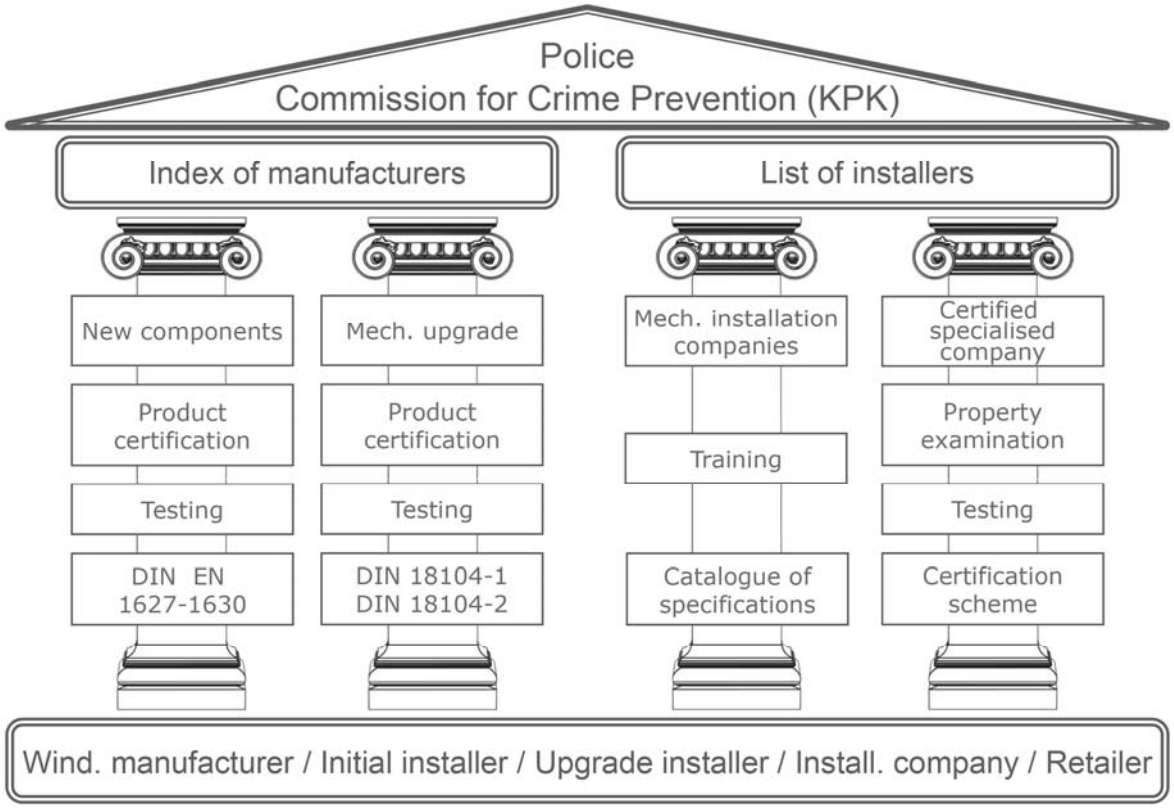

Fig. 1 The columns of the preventive burglary protection in Germany

Precondition is that the manufacturers are producing standard-compliant and quality-assured products and that the assembly and construction agencies can provide defined qualification and knowledge. The consultations are free of charge and the manufacturer and/or construction lists are passed on “as recommendation”.

2 Current Situation of Crime Statistics

In 2016, a decline of 9.5% of committed and recorded burglaries could be recorded in Germany compared to 2015. For the first time, this is a positive development and yet is it still a worrying number of 151,265 committed burglaries. Considering the development of the last few years, the level of 2014 is reached. This means specifically that every 3.5 minutes a domestic burglary is committed in Germany.

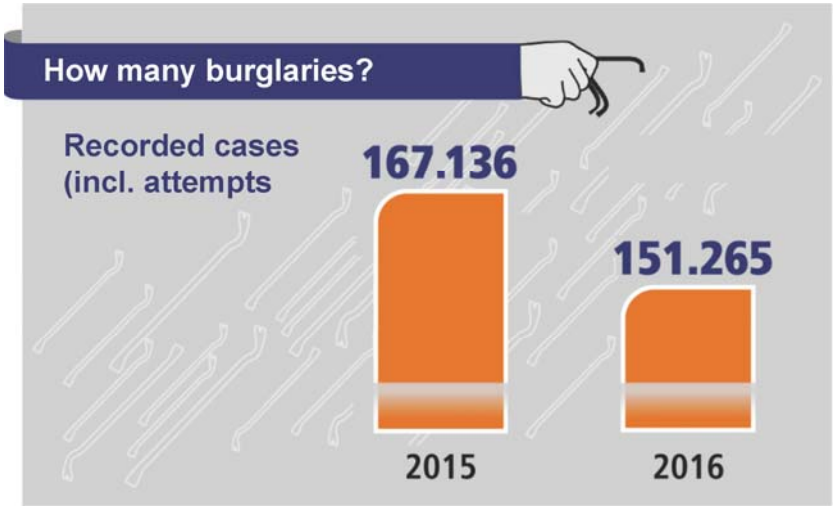

Fig. 2 Comparison of recorded burglaries 2015 to 2016

In Germany, the burden by burglaries is still distributed very unequally. Strongholds are still the states North Rhine-Westphalia, Berlin and Hamburg. In these states, four times more burglaries are committed than in Bavaria, in relation to 100,000 inhabitants.

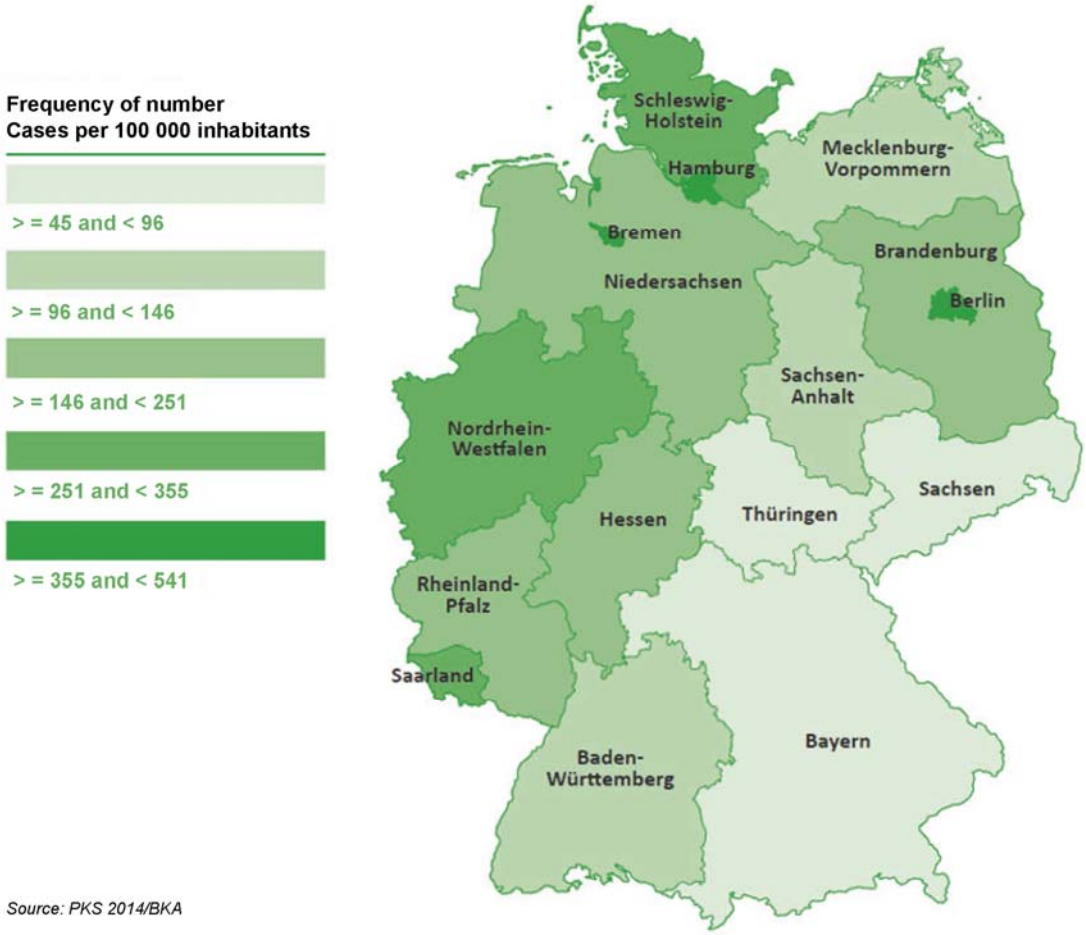

Fig. 3 Burden by burglaries in Germany in relation to 100,000 inhabitants (Source German Federal Office of Criminal Investigation)

Still, approx. 90% of the windows are opened by “prying”. The “attack” on the glazing is approx. 10%.

The police as well as parts of the experts are currently discussing whether the specifications of the lockable window handles of 100 Nm against “forcing off” and “twisting off” are enough in practice. The reason is the information of the police proving that windows were overcome by direct attack on the lockable window handle, for example, with a screwdriver or a tube. At this time, it is not finally clarified whether the recorded cases were with the so-called “100 Nm” window handles.

Next year, a new edition of the “Cologne Study” is currently planned to be published. It remains to be seen whether new “targets” and “burglary methods” as well as new “modi operandi” can be extracted.

3 Level of Standardisation of EN 1627 et seqq. and within the Mechanical Retrofitting DIN 18104 Part 1 and 2

The current status of the standardisation within the burglar resistance and mechanical retrofitting is displayed in table 1.

Table 1 Current status of the standards within the burglar resistance and mechanical retrofitting

Ser. No.	Field	Title	Date of issue
1.	Basic equipment	DIN EN 1627ff.: Pedestrian doorsets, windows, curtain walling, grilles and shutters – Burglar resistance – Requirements and classification	2011-09
2.	Mechanical retrofitting	DIN 18104-1: Mechanical security equipment – Part 1: Burglar resistant products for port installation for windows and doors – Requirements and test methods	2017-08
		DIN 18104-2 Mechanical security devices – Part 2: Additional burglar resistant products for windows and doors – Requirements and test methods	2013-05

Already shortly after the publication of DIN EN 1627 et seqq. in September 2011, the newly compiled standards committee WG7 (working group 7) has started to focus on the revision of the standards series of burglary protection. The first results were the so-called “amendments” for the three test standards DIN EN 1628, DIN EN 1629 and DIN EN 1630, which were published in Germany in July 2015. Another issued “amendment” for DIN EN 1627 was rejected on European level. Furthermore, they began to revise the complete standards series DIN EN 1627 et seqq. At this time, it is planned to apply for so-called “work items” (“project proposals/drafts”) in the first quarter of 2018.

The following extensions and amendments are expected according to the current state of discussion:

- Introduction of a new evaluation template for the assessment of fixed glazings
- Inclusion of mechatronical hardware for the assessment of building components with electromechanical hardware
- A method to manually test hardware even without evidence and to classify the building components, components accordingly.

A revised version of DIN EN 1627 et seqq. can be expected in 2019, at the earliest.

With DIN 18104 Part 1 and Part 2, two national standards are available for mechanical retrofitting. In principle, a difference is made between burglar resistant products for port installation (part 1) and additional burglar resistant products (part 2). The aim of both standards is to make existing windows and doors - if suitable - “safer” by installation of modern hardware technology. That makes it difficult for perpetrators to use simple tools for the burglary and to over-level the building components. A safety-related retrofitting of windows and doors is appropriate if they should be protected against the “quick access” with simple tools. This August, a new edition of DIN 18104-1 was published. Compared to the previous edition of DIN 18104-1 of May 2013, the terms and the Annex D have been revised, sections were specified and deleted, and the normative referrals have been updated.

4 Trends for Testing

The main part of tests of burglar resistant windows is still made in resistance class RC2 with tendency to resistance class RC3. The focus regarding the used frame material is approximately divided as follows:

- 60 % uPVC
- 20 % aluminium and steel
- 10 % timber
- 10 % mixed systems (timber-aluminium or composite)

There is a clear trend regarding a complete system coverage for the components windows, doors or facades. The construction of a residential property with single and double windows, sliding doors and accessories in the resistance class RC2 requires the approval of various types of construction, profiles and accessories. Furthermore, the installation and the assembly should already be included in the planning at an early stage (keywords: masonry and installation situation).

Extensive experiences have already been made with evaluation according to EN 1627 regarding the test of special constructions such as panic doors, window elements with night ventilation or even secure storage units.

5 Summary and Perspective

The persistently high number of committed burglaries still requires a large number of experts in consultation, fabrication of products as well as in the range of assembly in the wide array of mechanical safety technology. The importance of electromechanical burglar resistance is likely to increase further as there is a large variety of products on the market

and the trend of “electrification” will continue. The standards experts are also asked to develop the standards, so that they can be adapted or even new “modi operandi” can be prepared for the future. Burglar resistant products within the basic equipment or the mechanical retrofitting have to be constantly developed and optimized to satisfy the current market requirements. It remains to be seen whether the available funding pools for mechanical burglary protection will be refilled by the politics - the odds are not too bad with a view to the upcoming elections.