University of Southampton

Standard Specification for Lock Products

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Target Audience	E&F members, Project Managers, Consultants and Contractors, Faculty and Schools

Revision History

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01	Shane Parkes Rikki D'Souza	Updated Standard Concerns and Superseded 'ES-031 Lock Products'	28/01/2025

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1. Purpose

This Standard Specification contains details of requirements for lock products installed as part of university projects. Given the complexity of selecting appropriate lock systems, it is essential to start the decision-making process early in the project timeline, as the procurement of cylinders can take considerable time depending on specific requirements.

In the event of there being any conflict between this specification and Building Regulations, other statutory requirements, perceived best practice or the client brief, then these contradictions are to be brought to the attention of the project manager in the first instance. Further support and guidance can also be provided by the Assistant Repairs Manager (Contracts) in Estates & Facilities (E&F).

2. Scope

This Standard Specification outlines the requirements for lock products in university projects and must be adhered to by consultants and contractors.

3. Background

3.1 Lock Products Installation Responsibilities

Contractors are responsible for the installation of the required lock products and relevant lock furniture. E&F is responsible for the procurement and management of the cylinders and keys. All locking hardware installed within the University will be operated by either a Yale or Mul-T-Lock Europrofile cylinder.

3.2 Key Concerns of Lock Installation in University

When selecting and installing locking systems for university projects, five key aspects must be carefully considered:

A. Security Standards

- Product meeting high EN standards of security are required.
- The Security provided by locking systems is determined not only by the grade given to the product, but as a holistic system, including quality and thickness of the door and quality of the workmanship employed during fitting.
- As most locks can be fitted to be used in a number of differing applications, it is VITAL that only the necessary apertures are cut into the door to match the chosen application.
- Bolt through fixings on lever handles removable from inside only are recommended.

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For Example:

A Mortice Nightlatch can be activated internally by either lever handle or cylinder thumb turn. Externally the same lock is activated generally by key only, with the lever handle being used only as a means to pull the door to and support the bolt through fixings. It is vital to maintain good security; therefore, the spindle hole cut through the door on the inside should not be drilled externally under the level furniture. If the external handle is attacked and broken access to the internal spindle would be made easy resulting in a breech.

B. Disability Discrimination Act (DDA) Compliance

DDA compliance is important throughout a building and can impact heavily upon the type of product used with regards to locking systems. The less complicated the locking system is, the better it can be used by people with a disability.

- The lever handle should be fitted at a height of 1000mm from the floor.
- Bolt through lever handles are recommended for two reasons, firstly bolt through fixings are stronger, which is important as disabled people will often use the handle as a support throughout use, secondly lever handles of the recommended dimensions can be used by other body parts for example elbows and forearms.
- The lever furniture should colour contrast with the door to aid visually impaired users.
- The lever handle should be at least 72mm from the centre of the lock cylinder so that it does not encumber use.
- The whole lock mechanism should be fitted so that the minimum force is required to action it, with single action escape required.

C. Fire Safety Regulation Compliance

- All applications fitted should meet fire regulation standards.
- Single action for escape is the standard required.
- Fire Doors should be fitted with crash bars or panic hardware depending upon location and application.
- If external locking attachments are to be fitted to panic hardware, then a type which would accept a standard sized, single sided Europrofile cylinder will be required.

D. Compatibility with both Yale and Mul-T-Lock Euro Profile Cylinders

- All locking hardware will be operated by either a Yale or Mul-T-Lock Europrofile cylinder.

- The standard length of cylinder supplied is 66mm long. Therefore, doors of a greater thickness than 44mm, or doors in which the lock case has been fitted off centre will not be able to be fitted with a majority of the lock cylinders used throughout the University. This becomes a problem when Client departments wish to move existing Master key suited cylinders into new buildings.

E. Master Key Suiting

- All University departments utilise unique dedicated Master key suites.
- It is vital that the Client departments approve the suiting arrangements for the areas they will occupy, including E&F. Cylinders and keys can then be produced to meet with specified requirements.

3.3 Compliance with Industry Standards

There are two British Standards important for lock product compliance:

- BS 3621: *Lock assemblies operated by key from both the inside and outside of the door* specifies the minimum standards for lock products, which the locks must meet in terms of performance and composition. Most insurance policies require a property to have locks compliant to BS 3621 on all ground floor external locks, as they are specifically designed to be thief-resistant.

- BS 9999: *Fire Safety in the Design, Management and Use of Buildings – Code of Practice* sets the standards for fire precautions in buildings.

It is important to note that a lock cannot simultaneously comply with both BS 3621 and BS 9999 standards. Therefore, a balance approach must be adopted to address the needs of both security and fire safety, as detailed in the Section 3.4.

3.4 Balanced Approach

Considering the key concerns outlined in Section 3.2, as well as the industry standards and Regulation 7 of the Building Regulations which relates to quality and life cycle costs, the UNION HD72 range and the NEMEF 6100 range of lock cases, when combined with either the Yale or Mul-T-Lock euro profile cylinders, will meet the Universities locking needs. These systems offer a strong balance between security, fire safety and the concerns outlined in Section 3.2.

4. Detailed Requirements

- The UNION HD72 range and the NEMEF 6100 range are the approved lock cases for installation in the university. The rationale for this selection is detailed in Section 3.

- Only these approved lock cases must be used in the university.

- For UNION HD72 range lock cases, only Zoo Architectural hardware furniture should be used, as it is designed to be compatible. However, NEMEF 6100 range lock cases are supplied with their own furniture.

Additional information and detailed specifications for the lock cases and furniture can be found in the Appendices.

5. Appendices

A. UNION Lock Cases

The range of HD72 modular and heavy-duty Euro profile lock cases are designed to provide high performance for years to come. Featuring a robust design, the HD72 is ideal for high frequency areas or spaces where there is a high chance of misuse and abuse. For this reason, the HD72 is tested to more than 3.5 million cycles, for total peace of mind. The HD72 covers typical installations such as sashlock, deadlock, deadlocking night latch, bathroom lock, and escape sashlock, and it features DIN style casing for use with Euro profile cylinders.

The HD72 Range includes:

- HD72 Bathroom lock
- HD72 Deadlock
- HD72 Deadlocking Nightlatch
- HD72 Escape Sashlock (Handing can be changed on application)
- HD Latch
- HD Sashlock

Below are listed the attributes of the UNION HD72 lock cases:

Attribute Name	Value
Angle of Lever Operation (mm)	35
Case Material	Mild Steel
Centres (mm)	72
Dimensions H x W (mm)	165 x 16
Faceplate Size (mm)	24 235
Fire Rated Metal	Fd 240
Fire Rated Timber	Fd 30, Fd 60
Follower Distance (mm)	8
Latch & Deadbolt Finish	Steel Chrome Plated
Product Subtitle	Introducing The HD72 Sashlock, A Top-tier Locking Solution By HD72. Crafted For Durability, It Features Heavy-duty Latch Technology And A Sleek, Contemporary Design. With A 15-year Guarantee, It's Perfect For High-traffic Areas. Enjoy Seamless Fitting And Reliable Performance For Years To Come.

B. Zoo Architectural Hardware Furniture

Zoo Architectural Hardware is compatible with the UNION HD 72 range lock cases.

ZCSIP19: 19mm Tubular Return to Door Lever on Inner Plate

Key Features:

- BS EN 1906 : 2010 Grade 3
- BS EN 1634-1
- Complies with the design requirements of BS8300
- 30 & 60min Timber Door Tested
- SS Grade 304
- Dimensions - 218 x 48mm
- Includes M4 Male/Female Fixings
- M6 Heso Grub Screws Supplied
- Supplied with wood screws

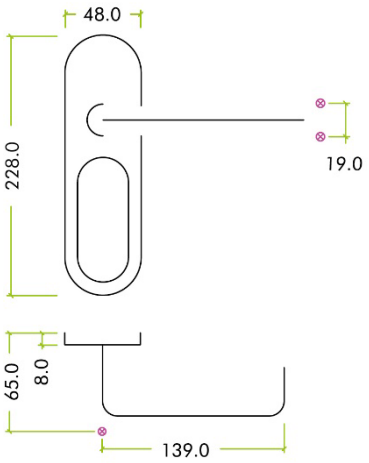

Figure 1 – Dimension of ZCSIP19

ZCS31EPSS72: Cover plate for 19 mm and 22mm RTD Lever on Backplate - Din Euro Profile/72mm Centres

Key Features:

- To suit ZCSIP19 and ZCSIP22
- Dimension - 230 x 50mm
- SS Grade 304
- BS EN 1634-1

Figure 2 – Dimension of ZCS31EPSS72

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C. NEMEF Lock Cases

The 6100 series have been successfully approved for use on fire doors and therefore carries the CE marking. The category of use achieved is the highest Grade 3 (low care incentive, high probability of misuse (public buildings)), whereas many other similar manufacturers have only gone for Grade 2 (some care incentive, some misuse (offices)) in line with BS 3621. Security Grade is either 6 or 2.

The 6100 series of lock cases, when used in conjunction with NEMEF 3253 Aluminium door furniture 72 mm (approved under BS EN 1906) meet the requirements of BS 8300 'Design of an accessible and inclusive built environment – code of practice' and can therefore be used on projects where DDA has to be considered.

In particular, the NEMEF 6102 Panic Split Follower (SS finish and Square F/End) with VS4000 box strike (approved under BS EN 179) allows the internal lever handle to withdraw both the latch and bolt in a panic situation. Externally the latch bolt is operated by lever handle and the deadbolt by key.

Most of the 6100 series is handed and so careful attention must be paid to both the handing of the door and the handing requirements of the lock case application (see diagram 1 as a guide), generally the fig reference is quoted whilst ordering.

Both the split spindle (ref 59102156) and the VS4000 box strike are sold as separate items.

In some cases, it might be worth considering the spring strength of the package. All NEMEF lock cases are heavy sprung as standard. NEMEF 3253 handles are also sprung. Therefore, the full set may be too strong for some people to operate. In this case, the lock can be supplied with a lighter follower spring (still approved under BS EN 12209) this would reduce the effort required to operate smoothly.

For the specification and details about the NEMEF 6100 series lock cases, please visit the NEMEF website at: https://www.nemef.nl/en

ISO			NEMEF
6/0	ENGLISH	L H INWARD	Fig 1
	DUTCH	R H INWARD	
	GERMAN	R H INWARD (RS)	
	GERMAN	(DIN LS)	
5/0	ENGLISH	R H INWARD	Fig 2
	DUTCH	L H INWARD	
	GERMAN	L H INWARD (LS)	
	GERMAN	(DIN RS)	
6/1	ENGLISH	L H OUTWARD	Fig 3
	DUTCH	R H OUTWARD	
	GERMAN	L H OUTWARD (LS)	
	GERMAN	(DIN LS)	
5/1	ENGLISH	R H OUTWARD	Fig 4
	DUTCH	L H OUTWARD	
	GERMAN	R H OUTWARD (RS)	
	GERMAN	(DIN RS)	

Diagram 1 – Door Handle Chart with terminologies in English, Dutch and German

NEMEF 3253
Aluminium door
furniture 72 mm

VS4000
box strike

Figure 4 - NEMEF 3253 Aluminium door furniture and VS4000 box strike

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