CIBSE GUIDE M Life Tables
Update Launch 5th December

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Thank You!

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SFG20
From CIBSE’s perspective, this document provides the indicative economic life expectancy tables that are important to the industry for robust life cycle asset renewal planning. It also provides the UK industry consensus view of the ‘common data classifications’ for all building engineering services, by bringing together:

- CIBSE Guide M,
- RICS (NRM 1 and 3) and
- BESA’s SFG20 maintenance standards.

This common data classification may be used by clients, facilities managers, consultants and contractors to provide structured asset information needed for the implementation of building information management (BIM) and effective data exchange during projects and at handover into operational phases and throughout the asset life.
“Operational Expertise and Systems Thinking in the Design Process - is Essential”

- Initial Design
- Refurbishment/Re-fit
- Maintenance Strategy
- Ongoing Risk Reviews
- Life/Plant Replacement (using CIBSE life tables)
CIBSE Guide M - Chapter 3 Maintenance Strategy

- Design Stage
- Building Operation Stage
- Clients’ requirements
- Maintenance policy
- Control of maintenance
- Statutory Inspection frequencies
- Manufacturer recommendations
- ‘Standard’ maintenance frequencies
- Building the appropriate Strategy
- Building Priorities
- Maintenance Priorities
- Life-cycle considerations
- Specific requirements
- Adjustment of maintenance frequencies
### Added Value - Effective Maintenance Strategies and Delivery

**Collaboration of Best Practice - Who Shares Wins!**

#### CIBSE Guide M  Maintenance engineering & management

<table>
<thead>
<tr>
<th>Design Standards Plan of Design Standards Plan of Work BIM/1192.3/4</th>
<th>SFG 20</th>
<th>BS 8544</th>
<th>NRM 3</th>
<th>“Plan, Do, Check, Act - Build, Maintain, Renew”</th>
<th>Sites Categories Functions</th>
<th>‘Predictor’ Assessment of Need</th>
</tr>
</thead>
</table>

**Building Operational Risk Management and Compliance**

**Operational Best Practice-Standards (CIBSE, BSRIA, RICS, BIFM, BS etc)**

Source: Geoff Prudence/CIBSE Guide M
Competency and Competency Management Systems in FM

"KS21 is not intended as a definitive work, nor is it a model solution to achieve and maintain competency in every case.

It is however a useful guide for building owners, maintainers and operators, and facilities managers as to how they can demonstrate the effective management of individual competency and in so doing contribute to corporate competency."

Foreword by Geoff Prudence
Design, Operation and Delivery of Efficient Buildings
Real Leadership in Building Services/The Built Environment

Core Business Strategy
Organisational Objectives & Values (Including CSR, Sustainability and Energy
Property & Asset Strategy and subsequent Financial/Resourcing Strategies

Real Collaboration | AI Authenticity & Integrity | Emotional Environment

Technology (Enabling Ability)
- Controls
- Automation
- BMS/CAFM
- Smart Buildings
- Smart Cities
- IOT
- AI/Predictive

‘Workplace’
- Physical Environment
- Comfort/IAQ
- People
- Wellbeing
- Competence

CIBSE Guide M Maintenance Engineering & Management
(Incl. A.12 Life Updates 2019)

Design Standards
- Plan of Design
- Standards Plan of Work
- BIM/1192 3/4

SFG 20 | BS 8544 | NRM 3

“Plan, Do, Check, Act - Build, Maintain, Renew”

Sites Categories Functions
‘Predictor’ Assessment of Need

Building Operational Risk Management (BORM) and Compliance
Operational Best Practice-Standards (CIBSE, BSRIA, RICS, BIFM, BESA/SFG20 BS/ISO etc)

Real Leaders
Be Authentic, Be Your Best Self, Keep It Real!
help@realleaders.co.uk
CIBSE Guide M Indicative Life Expectancy Tables


Real Industry Collaboration  CIBSE/CIBSE FM  RICS  BESA SFG 20 Leading Common Standards
The rationale behind the RICS New Rules of Measurement (NRM 3) was to be able to integrate the construction cost management with asset renewals and operation and maintenance, to the end of life.

Based on cross-industry collaboration between RICS, BESA (SFG20) & CIBSE, the economic life expectancy table brings together these industry data standards into one combined table (appendix 12 A1).

Therefore, the update CIBSE Guide M table is important in providing the common data classification for overcoming the capital and revenue divide, (i.e. BIM handover into facilities management) along with its impact on how buildings can be handed over into operation.

Also it will help to structure and standardise how future condition surveying is undertaken and inform forward asset renewal plans.

This 2020 update to the CIBSE Guide M table is essential to help future construction projects to be more robustly life cycle costed in use, by providing the common data classification enabling handover of asset information post-construction. Then use for the effective operation and maintenance throughout the asset’s life cycle.
# CIBSE Guide M - Life Tables

## Heat source - Boilers

<table>
<thead>
<tr>
<th>Item</th>
<th>Equipment</th>
<th>Service life (years)</th>
<th>Remarks</th>
<th>RICS NR383 code</th>
<th>BESA SFG20 schedule code</th>
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<tr>
<td>2</td>
<td>Gas-fired boiler plant and auxiliary items, including burners, blow-down facilities and pressurization units</td>
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<td>Pressure included in world systems</td>
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<td>MHTFW up to 120°C</td>
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<td>Water treatment is very important</td>
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<td>Coal-fired boiler plant and auxiliary items, including burners, blow-down facilities, coal distribution equipment, ash handling and storage equipment, grit arresters and pressurization plant</td>
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<td>S.5.1.1.3</td>
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<td>Coal-fired coal distribution equipment: burners and conveyors</td>
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<td>Including grit arresters</td>
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</table>

**CIBSE Reference**

Service Life (years)

**NRM 3 cost code**

**SFG20 Maintenance Task code (Oct 2019)**
# Product Data Definitions 2016

## Product Data Definition Standard
A technical specification for defining and sharing structured digital construction product information.

### NRM 3

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<tr>
<th>N &amp; R</th>
<th>Maintain (M) &amp; Renewal (R) descriptor</th>
<th>Unit of Measure</th>
<th>Maintain Task Code</th>
<th>SFG20 Task Descriptor</th>
<th>CIBSE Guide M Reference Service Life (RSL)</th>
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</tbody>
</table>

Source – Product data definition guide 13 April 2016 (on behalf of BIM task group)
RICS new rules of measurement (nrm)

‘What can be measured can be evaluated, improved, directed – in short managed’
Lord Kelvin
Barriers to the use of Whole Life Costing

NAO 2005 Report on ‘Improving Public Services through Better Construction’

“Whilst the majority of the industry now recognise that whole life costing is the basis for getting best value for money in public sector construction procurement However there are 4 key barriers to making this happen in practice”:

1. Confusion over scoping and terminology and definitions (inconsistency)

2. Lack of a common methodology and UK standard cost data structure

3. Lack of ability to present information to enable project stakeholders to understand the inter relationship between costs (over the whole life), time and quality and also take account of wider environmental (notably energy performance and CO2 emissions) and also social aspects

4. Lack of tangible evidence and the know-how (skills) to make it happen!
ICMS-2 overcomes confusion over scoping whole life costs and terminology regarding the difference between whole life cost (WLC) and life cycle cost (LCC).

Note – Occupancy costs included in other client - non construction costs in BS ISO 15686-5
ISO 19650 part 3 – BIM into FM and whole life

- Finances
- Changing Service Expectation
- Readiness of Service Users
- Technology Solutions
- Knowledge of Asset
- Skills (3D and 5D/6D/7D)

**Push**

- Digital Built Britain
- Smart Cities
- Supply Chain Impact
- Govt Soft Landings
- Open Data Standards
- Benefits Realisation
- Cost efficiency (VfM)

**Pull**
Asset Management – ISO 55000 Maturity 0-5

1. Innocence
   - Repair as good as before
   - Reactive – fix it when it breaks
   - Struggling with management systems

2. Developing
   - Systems are a valuable tool - information is an asset
   - Proactive, preventive maintenance
   - A “paradigm shift” in attitude from ‘cost focus’ to ‘business focus’

3. Competence
   - Proactive predictive maintenance
   - Sound knowledge of cost, performance & risk relationships

4. Knowledge Based
   - Integrated organization, systems & processes
   - Outsourced contracts to deliver value & cost savings

5. Excellence
   - Optimized planning & decision making

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Maintenance is an expense

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Learning → Applying → Embedding → Integrating → Optimizing

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Maintenance is an investment

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RICS - the mark of property professionalism worldwide

BSi

Thank You

For more information contact
andy.green@atkinsglobal.com
Simplifying the world of building Maintenance, making it easier to share and reuse data.

Unifying the data structures (common language)

Steve Tomkins  
C.Eng MIMechE MCIBSE MIAM
The CIBSE Guide M life table update now fully aligns CIBSE’s reference service life expectancy data with SFG20 maintenance codes and to NRM for all building engineering services assets.

It incorporates additional SFG20 maintenance tasks schedule codes from 2014 to 2019 (October) from 800 (2014 Guide) to 1200 SFG20 schedules.

The benefits to SFG20 subscribers are:

- SFG20 applications now aligned to NRM for costing of maintenance
- Supports industry foundation data standards for use on future design and construction projects + standardise asset mapping to SFG20 codes
- Rationale for use of the ‘common asset structure’ throughout the entire building (construction) and asset (maintenance and renewal) life cycles
The number of SFG20 task schedules has increased from **500** (Guide M 2008) to **1200** and includes specialist services as of October 2019.

**Schedules specific to an industry or sector:**

- Healthcare – HTM aligned
- Access Equipment & Lifts
- Catering
- Operational
- Security & Surveillance
- Building Fabric
- Workshop Equipment
- Mechanical Handling Equipment
Common Language and Data Classification Structures

Industry Data Classification Standards

CIBSE
Best practice design principles and statutory obligations

RICS
Integrates construction and cost operations

BESA
Standardised maintenance routine schedules and statutory obligations

NBS
Unified Classification for UK Construction sector

OmniClass
Construction Classification System derived from ISO and ICIS

Uniformat
Standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada

Asset List
Unification of all the industry data classifications

BIM Model

Asset Structure & Levels

Maintenance

Asset Renewals
SFG20 solutions for use in a digitally enabled world

- Project Handover (to Operations)
- Condition based Maintenance in ops
- Disposal + end of life (salvage)
- Mothballing
- Benchmarking (Costs / function models)
- Knowledge and Data analytics (BCIS + international market alliances)

**Use of SFG20 for Projects and Assets Management**

- Dispose
- Acquire
- Design
- Construction
- Sustain
- Renewals
- Operate and Maintain

**Use of SFG20 for Core Compliance and Service Model**

- Asset register for SFG20 (NRM/SFG20/CIBSE/Uniclass)
- Service Level Profiles (fit 4 function, e.g. SFG20 offices)
- Tender - Spec / Cost model (SFG20 Resource Modeller)
- Contract model for delivery (inc asset risk management using RPAG service regimes)
- CAFM system upload/Q&A (SFG20 master task library)
- Compliance (Audits)
Working In Partnership

“Coming together is a beginning; keeping together is progress; working together is success.”

Henry Ford
Thank you

Panel Questions

Geoff Prudence
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Andrew Green
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Steve Tomkins
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