

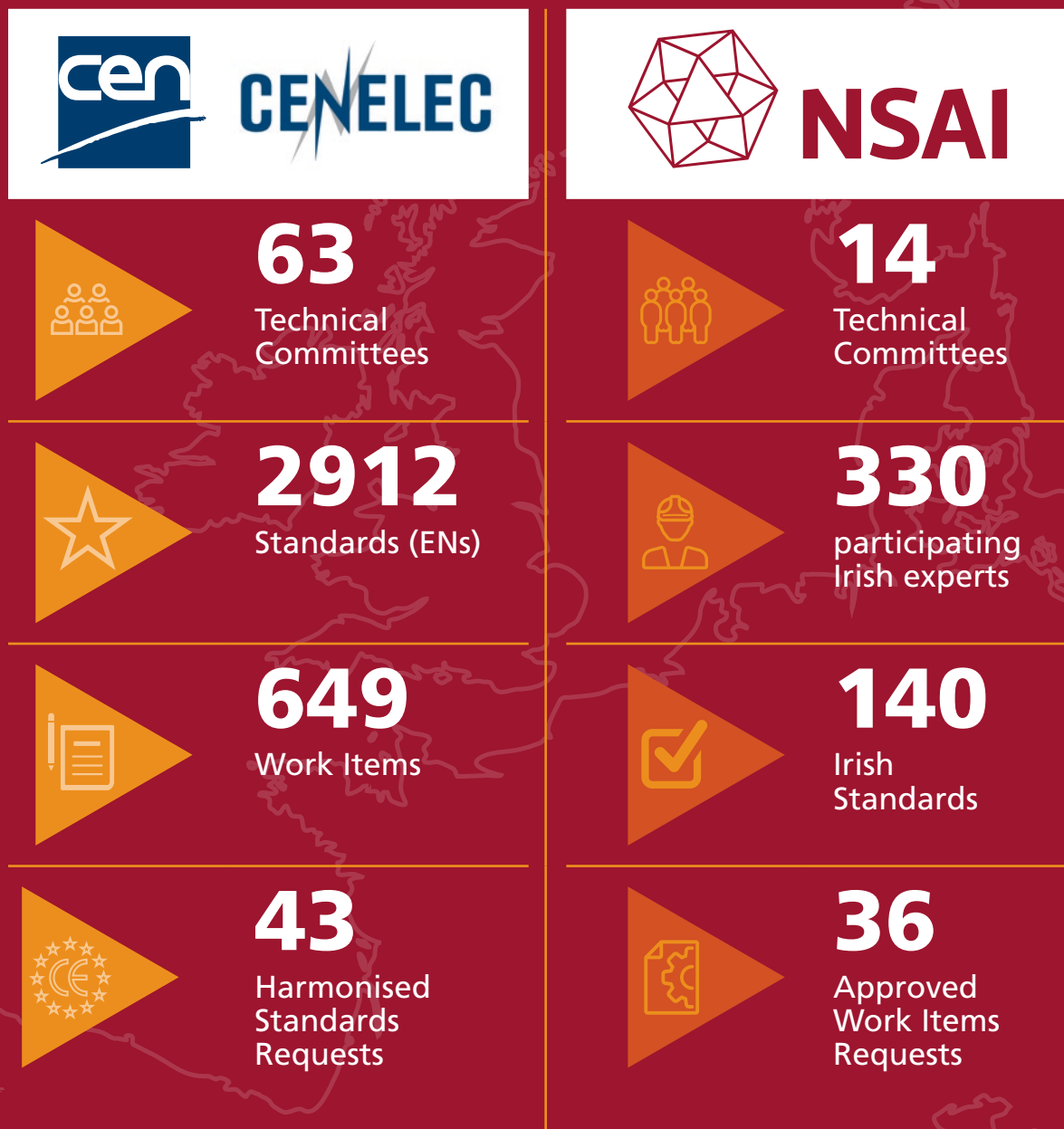
**NSAI**

# NSAI Standards – Construction Sector Standardisation Programme to 2021

– Supporting Ireland's Construction Sector



# Standardisation in the Construction Sector at a glance



This data is current at the time of publication of this document and may be subject to change thereafter.

# Contents

Introduction	2
Overview of the Standardisation Programme	4
NSAI Construction Standards Consultative Committee – Introduction	6
NSAI Construction Standards Consultative Committee – Secretariat	7
Members of the Construction Standards Consultative Committee	8
NSAI Standards Technical Committees in the Construction Sector	10
NSAI Construction Standards Consultative Committee – Scope and Functions	11
NSAI Standards Construction Sector Standardisation Programme	12
Construction Standardisation Programme Database	13
National Standardisation Programme – Indigenous Standards and National Guidance documents	14
National Standardisation Programme – Maintenance of existing portfolio	15
National Guidance to Harmonised Standards falling under the remit of Construction Products Regulation (EU) N0 305/2011	16
National Guidance to non-harmonised Irish Standards	18
Irish Standards referenced in the Technical Guidance Documents to the national Building Regulations	19
European Standardisation Programme	20
The Way Forward	22

# Introduction

Engaging stakeholders  
to develop standards  
that benefit and  
protect consumers

*NSAI.ie*



**GERALDINE LARKIN**  
Chief Executive Officer

NSAI (National Standards Authority of Ireland), Ireland's official standards body was established by the National Standards Authority of Ireland Act 1996<sup>1</sup> and reports to the Minister for Business, Enterprise and Innovation.

The primary aim of the Authority, is to provide the necessary technical services of Standardisation, Metrology and Conformity Assessment to underpin Ireland's technical quality infrastructure.

NSAI Standards, under the NSAI Act functions to develop, publish and promote standards that facilitate trade and provide a basis for technical regulation. NSAI is the National Standards Body (NSB) member of European (CEN, CENELEC, ETSI<sup>2 3 4</sup>) and international (ISO, IEC<sup>5 6</sup>) standards organisations.

The construction industry contributes to approximately 9% of the EU's GDP and 18 million direct jobs are provided by the construction sector in Europe. This sector drives economic growth in the creation of new jobs in the EU.<sup>7</sup>

---

1 National Standards Authority of Ireland Act, 1996 Number 28 of 1996 – <http://www.irishstatutebook.ie>

2 European Committee for Standardisation (CEN) <https://www.cen.eu>

3 European Committee for Electrotechnical Standardisation <https://www.cenelec.eu/>

4 European Telecommunications Standards Institute <https://www.etsi.org/>

5 International Standards Organisation <https://www.iso.org/>

6 International Electrotechnical Commission <https://www.iec.ch/>

7 European Commission – [https://ec.europa.eu/growth/sectors/construction\\_en](https://ec.europa.eu/growth/sectors/construction_en)

# Introduction

Ireland is currently in a climate of growth in the construction sector. Current government strategy for the Construction Sector i.e. *'Construction 2020 A Strategy for a Renewed Construction Sector'* supports this growth and confirms the need for a strong and sustainable construction sector in Ireland and sets out a programme of action to *"deliver a strong, sustainable, well – financed, competitive and innovative approach to construction and housing, building to the highest standards, at realistic levels and with consumer protection at its heart."*<sup>8</sup>

The National Development Plan 2018-2027, under Project Ireland 2040 commits to major regeneration and infrastructural projects in Ireland.<sup>9</sup>

In parallel, the Government's Climate Action plan 2019 details a sectoral roadmap designed to deliver a cumulative reduction in emissions over the period 2021 -2030 and supports the principle underpinning Project Ireland 2040 for compact, connected and sustainable development. The Climate Action Plan recognises the importance in the Built Environment of improving "energy efficiency of our buildings, including our homes, workplaces and schools by meeting higher energy performance standards and by increasing retrofit activity."<sup>10</sup> Action 75 of the Climate Action Plan also identifies that an NSAI Standards Programme will be developed to support climate action policy, supporting the supply chain for renewables, retrofitting and climate adaption, including guidance for EV charging infrastructure in electrical wiring standards.

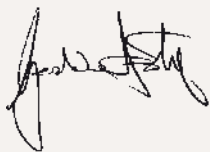
In line with Government policy, the NSAI Strategic Plan (2016-2020) sets out objectives underlying a strong commitment to supporting standardisation work in the construction sector, including the establishment of the Construction Standards Consultative Committee in 2017.

NSAI is delighted to have worked with the construction sector to develop and present this inaugural publication of the NSAI Standards Construction Sector Standardisation Programme to 2021.

This publication introduces the NSAI Standards Construction Sector Standardisation Programme and highlights the NSAI's contribution to Ireland's construction sector. Insight is provided into the extent of standardisation activities in the sector, nationally and internationally, including the considerable input of Irish experts, the role of the NSAI Construction Standards Consultative Committee and the way forward for standardisation in this growing sector in Ireland.

Informed by National and EU legislation and policy, this Standardisation Programme is based on current ongoing international activity in standards, the needs of the Irish construction industry and the vital input of stakeholders.

Given the expanse of the construction sector standardisation activities, NSAI through this Standardisation Programme strives to focus resources efficiently to ensure maximum benefit for the construction sector in Ireland.



**GERALDINE LARKIN**  
Chief Executive Officer

---

8 Construction 2020, A Strategy for a Renewed Construction Sector  
<https://merrionstreet.ie/en/wp-content/uploads/2014/05/Construction-Strategy-14-May-20141.pdf>

9 Government of Ireland, Project 2040, National Development Plan 2018-2027  
<https://www.gov.ie/en/campaigns/09022006-project-ireland-2040/>

10 Government of Ireland Climate Action Plan, <https://www.gov.ie/en/publication/5350ae-climate-action-plan/>

# Overview of the Standardisation Programme

There is significant ongoing work in standardisation by NSAI Technical Committees in support of our growing construction sector. Standards are written by industry, for industry. The construction industry by its nature is dependent on the voluntary standardisation process, nationally and internationally, to establish and share best practice and support regulations.

NSAI Standards serves as a conduit to facilitate national experts to participate in international standards development work. There are 63 CEN technical committees supporting standardisation. NSAI supports 14 national technical committees, upwards of 100 national technical bodies<sup>11</sup> and approximately 330 experts in the construction arena.

The European Standards programme supporting the construction sector, in which NSAI participates, is extensive. NSAI, as a member of CEN/CENELEC is obliged to adopt European Norms (ENs) as Irish standards (I.S. ENs), therefore it is vital that Irish interests are represented at the early development stage of relevant standards.

Whilst it is NSAI's policy to prioritise development of international standards, in line with government policy to support an open market economy, the construction sector also requires national or 'indigenous' standards to support local regulations, provide national guidance to international standards or to address local issues.

The NSAI Standards – Construction Sector Standardisation Programme has been developed in consultation with stakeholders and is presented as a database found here: <https://www.nsai.ie/standards/sectors/construction-standards/>.

It comprises of three main elements:

**a) a national programme including:**

- ▶ new indigenous Irish Standards (I.S.), and national guidance documents
- ▶ maintenance of the existing portfolio of national standards and guidance documents
- ▶ development of guidance to support implementation of CPR related (harmonised) standards
- ▶ National Annexes for the new suite of Eurocodes

**b) a programme to manage Ireland's contribution to international (ISO/IEC) and European (CEN/CENELEC) construction standards**

- ▶ particularly where the product is manufactured or widely used in Ireland

**c) promotion of construction related standards in Ireland.**

NSAI not only services the current standardisation issues through collaboration with stakeholders, but endeavours to be positioned as the point of contact for emerging standardisation work programmes of national interest directly and indirectly related to construction, such as, the Circular Economy, Building Information Modelling (BIM), amendments to the existing structural Eurocodes, energy and management of renewable technologies and climate change.

Taking into consideration that standardisation needs to anticipate technical progress and innovation into the future, this comprehensive Standardisation Programme provides visibility of the extent of ongoing standardisation activities and challenges undertaken by NSAI construction technical committees and experts going forward.

---

<sup>11</sup> A technical body is categorised as a Technical Committee (TC), Sub-Committee (SC), Working Group (WG), Project Committee (PC) or an E-Committee (EC)

# Overview of the Standardisation Programme

No. of hours volunteered by experts

**2500+ in 2018**

**470**

Standards for public comment in 2018



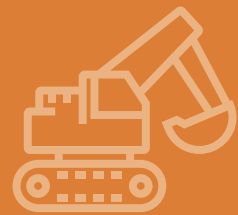
**400+**

Irish Standards and Standards Recommendations referenced in the Technical Guidance Documents to the Building Regulations



**171**

EN's in the construction sector adopted and published as Irish Standards (I.S. ENs) in 2018 e.g.



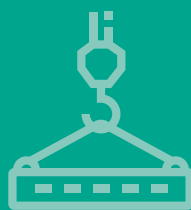
I.S. EN 1992-4:2018 Eurocode 2 – Design of concrete structures – Part 4: Design of fastenings for use in concrete<sup>12</sup>

I.S. EN 16907-2:2018 Earthworks – Part 2: Classification of materials

Construction standardisation projects account for up to

**50%**

of NSAI's national standardisation programme.

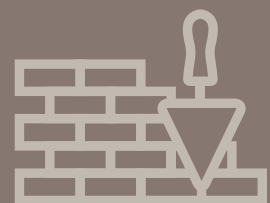


**5**

National publications in construction in 2018 e.g.

I.S. 465:2018 Assessment, testing and categorisation of damaged buildings incorporating concrete blocks containing certain deleterious materials

S.R. 325:2013+A2:2018 Recommendations for the design of masonry structures in Ireland to Eurocode 6.



**30%**

of Standards resources allocated to supporting the standardisation needs of the construction industry, nationally and internationally.



<sup>12</sup> NSAI Standards Archives <https://www.n sai.ie/standards/search-buy-standards/new-irish-standards-2019/nsai-standards-archives/>

# NSAI Construction Standards Consultative Committee – Introduction

The NSAI Construction Standards Consultative Committee (NSAI/TC 006) membership consists of a wide stakeholder base in the construction sector including the Chairs of the NSAI National construction Technical Committees.

As is the case with all NSAI Technical Committees, NSAI/TC 006 operates under the functions outlined in the NSAI Act 1996 and the NSAI Standards Terms of Reference for consultative committees. Through the Committee, NSAI consults with the construction sector regarding standards matters. The Committee is chaired by Mr. Kevin Sheridan and the Deputy Chair is Mr. Sean Downey.

The Technical Committees reporting to the NSAI/TC 006 are listed on page 10 and for Members of NSAI/TC 006 see pages 8, 9 and 10. Members of the Committee include regulators, state agencies, industry associations, professional bodies and academia. The Committee meets typically twice a year at NSAI.



**Kevin Sheridan EurBE, MSc, CEnv, FRICS,  
FIET, MICE, FSCSI, FCIQB, FCABE, FIBCI  
Chair NSAI/TC 006**

*“Valuable input by Members of the NSAI/TC 006 informed the development of the Construction Sector Standardisation Programme for 2019 to 2021 and resulted in the establishment of a new Working Group for the promotion and communication of standards and standards activities in the construction sector. I look forward to the continuing constructive engagement and collaboration of the key stakeholders in working with NSAI in this very challenging time for the construction industry.”*

A Chartered Building Engineer, Chartered Surveyor, Chartered Environmentalist, and Chartered Construction Manager, Kevin Sheridan is Chairperson of the NSAI Construction Standards Consultative Committee. He is Secretary General and past president of the Association of European Experts in Building and Construction. He is a Member of the Architects Registration Board and the Construction Industry Registration Ireland (CIRI) Board. Kevin is also a former Chairman of the Institution of Civil Engineers (Republic of Ireland region), former Member of the Building Surveyors Registration Board and past president of the Irish Building Control Institute. He served on the S.I. 105/2014-Building Control (Amendment) (No. 2) Regulations (BCAR) Board for alternative compliance proposals for Health & Schools Projects and the BCAR Code of Practice Committee.



**Sean Downey  
MRICS, MSCSI, MCI Arb, MCABE  
Deputy Chair NSAI/TC 006**

*“I’m involved in Standards because I believe that construction companies, our members in particular (CIF), need to be aware of what changes are coming. Also to try and understand, what we might get companies involved in so they can engage, and perhaps add value to their own companies and be ahead of where standards need to be for the future of the industry, as its progressing, and as things are changing internationally and changing in the market that we serve.”*

A Registered and Chartered Building Surveyor, Sean is currently Director of Specialist Contracting in the Construction Industry Federation. He is an experienced manager in the construction sector having worked at senior level for major companies in the industry and also for the Construction Industry Federation in the development and leadership of strategic initiatives in policy and administration. He has developed a thorough understanding of the varied and complex issues within the property development and contracting industry and is skilled in the facilitation of cooperative projects in industry innovation, BIM and commercial delivery.



# NSAI Construction Standards Consultative Committee – Secretariat



**Therese Clarke, Technical Secretary  
NSAI/TC 006**

Therese Clarke is a Senior Scientific Officer (SSO) in the Standards Division of NSAI. Therese is an Industrial Chemist by profession, holds a Post Graduate Diploma in Environmental Engineering (TCD) and a Masters in Occupational Health and Safety (DCU).

Following 10 years' experience in industry Therese joined NSAI as a Certification Officer for the ISO management system standards ISO 9001, 14001 and 18001 (portfolios in construction and manufacturing) and subsequently a Standards Officer.

Therese is currently Technical Secretary to a number of technical committees in the construction sector including the Construction Standards Consultative Committee, the Roads Standards Committee the Retrofit and Reactive Pyrite Committees.



**James Clarke, Technical Secretary  
Support NSAI/TC 006**

James Clarke is a Senior Scientific Officer (SSO) in the Standards Division of the NSAI. James has a background in Building Services Engineering and is a member of the Institution of Engineers of Ireland. He is an alumnus of the Dublin Institute of Technology and holds a Post Graduate Diploma in Global Energy and Climate Policy from the University of London.

Within the construction sector, James has experience in the design, construction and commissioning of high-tech facilities for the world's leading pharmaceutical and medical technology companies.

James joined the NSAI in 2018 and is currently Technical Secretary to several committees within the construction and electrotechnical sectors including, fire safety, building services, switchgear, electric cables, electrical appliances and marine energy technology.

# Members of the Construction Standards Consultative Committee

Membership of NSAI TC/006 also includes Chairpersons of the NSAI construction technical committees and construction related technical committees, see page 10.

Representation/Role	Name
Chairperson	Kevin Sheridan
Deputy Chairperson (Construction Industry Federation)	Sean Downey
Technical Secretary	Therese Clarke
Technical Secretary Support	James Clarke
Association of Consulting Engineers of Ireland (ACEI)	Richard Crowe
Aggregates Panel	Michael Byrne / Dermot McCarthy
Electrotechnical Consultative Committee (ETC)	John McAuley
County and City Managers Association (CCMA)	Mairead Phelan
Department of Housing, Planning and Local Government (DHPLG)	John Wickham
Dept of Agriculture, Food and the Marine	Robert Leonard
Engineers Ireland	Murt Coleman
Enterprise Ireland	Neil Kerrigan
Homebond	Conor Taaffe
Housing Agency	Norman Jackson
Ibec/Building Materials Federation (BMF)	David Howard
Irish Concrete Federation (ICF)	Liam Smyth
Irish Green Building Council (IGBC)	Pat Barry
Irish Water	TBC
NSAI Agrément	Martin English
Product Manufacturer	Michael Stack
Royal Irish Institute of Architects of Ireland (RIAI)	Peter Andrews
Society of Chartered Surveyors of Ireland (SCSI)	Noel Larkin
Solas	Jo Cahalin
The National Disability Authority (NDA)	James Hubbard
The Office of Public Works (OPW)	Ciaran O'Connor
Transport Infrastructure Ireland (TII)	Tom Casey

# Members of the Construction Standards Consultative Committee



## Construction Standards Consultative Committee at meeting 30th April 2019 at NSAI

From left back row: Ken Murphy NSAI, Gary O'Sullivan NSAI Agrément – guest speaker, Enda McDonnell Director Standards NSAI, Ralph Montague Chair BIM Committee, Robert Leonard Department of Agriculture, Food and the Marine, John Wickham DHPLG, Richard Crowe ACEI, James Clarke NSAI.

From Left middle row: Yvonne Wylde NSAI Manager Standards Technical, Derek Branigan Wavin Building Materials Federation (BMF), Tom Casey TII, Martin English NSAI Agreement, Conor Taaffe Homebond.

Front Row from left: Jim Mansfield Chair Eurocodes Committee, Sean Downey Deputy Chair NSAI TC/006, Kevin Sheridan Chairperson NSAI TC/006, Therese Clarke Technical Secretary NSAI TC/006, Peter Andrews RIAI, David Howard Ibec (BMF).



**Ralph Montague Chair BIM  
Technical Committee**

*"Building Information Modelling (BIM) standards are dealing with the production, management, sharing or exchange of digital architectural, engineering and construction, and the sharing of information. Its incredibly important work, because the built environment is important to everybody – we live in buildings, we work in buildings, and infrastructure that makes up and supports all of society, is important, and therefore so is the information about our built environment. Being involved in the committee really broadens your horizons and your outlook on how different people think about the built environment, and operate in this sector"*

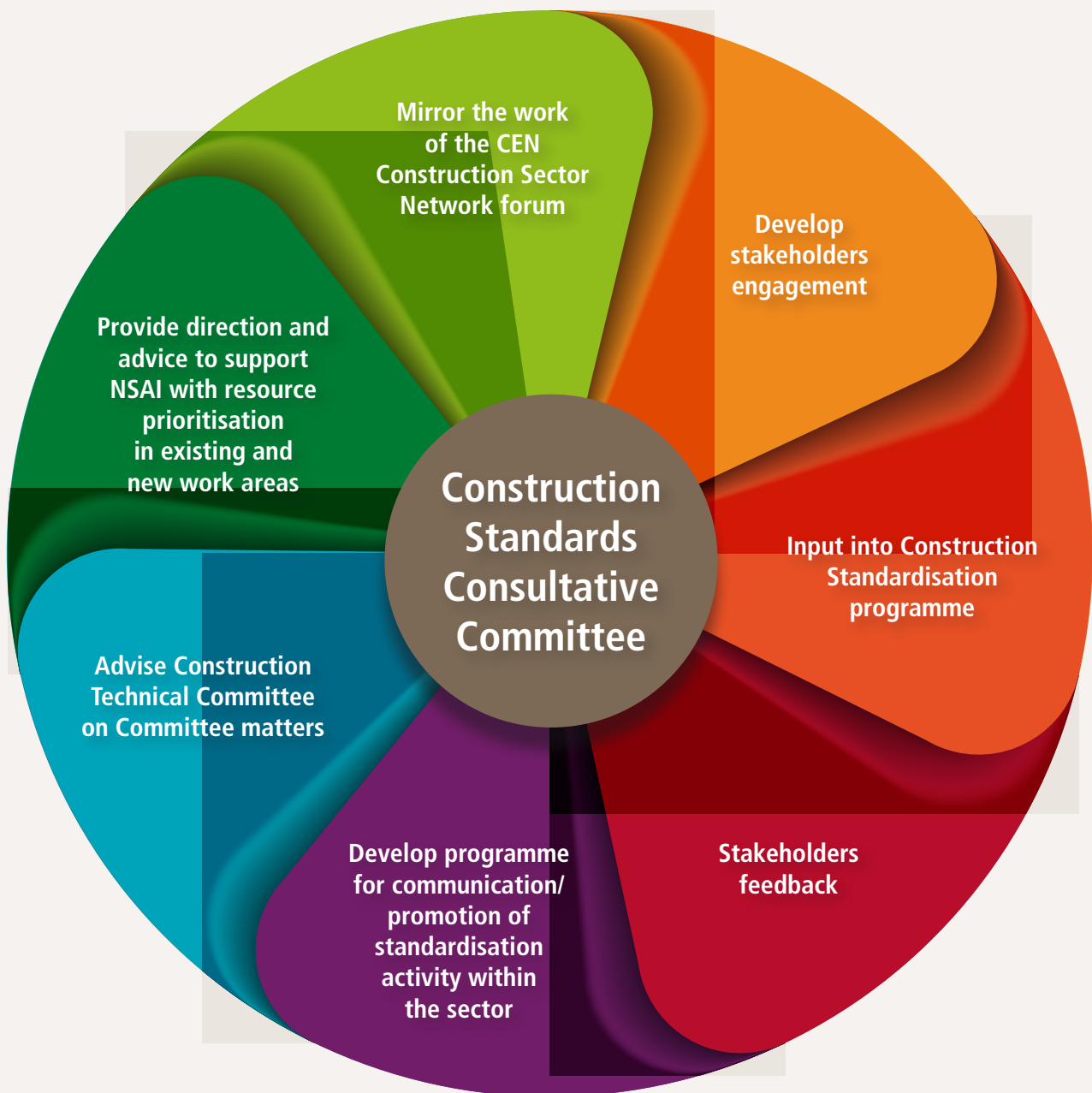
# NSAI Standards Technical Committees in the Construction Sector

NSAI Construction Sector Technical Committees <sup>13</sup>		
Reference	Committee Title	Chairperson
NSAI/TC 03	Concrete Committee	Brian O'Rourke (Cork Institute of Technology)
NSAI/TC 06	Construction Consultative Committee	Kevin Sheridan/Sean Downey (Construction Industry Federation)
NSAI/TC 08	Timber	Bill Robinson (Independent Service Provider)
NSAI/TC 11	Wastewater Engineering	Joe Walsh (Irish Onsite Wastewater Association)
NSAI/TC 12	Slating and Tiling	Michael Murray
NSAI/TC 15	National Eurocodes	Jim Mansfield (Kavanagh Mansfield & Partners)
NSAI/TC 16	Fire Safety	Michael Slattery (Michael Slattery Associates)
NSAI/TC 17	Roads Standards	Gearóid Lohan (Colas Ireland)
NSAI/TC 19	Energy Performance of Buildings	Sean Armstrong (Dept. of Housing, Planning & Local Government)
NSAI/TC 31	Building Services	Paul Martin (Sustainable Energy Authority of Ireland/ CIBSE)
NSAI/TC 33	Cranes	Padraig Delaney (Health and Safety Authority)
NSAI/TC 40	Retrofit of existing dwellings	TBC
NSAI/TC 47/SC 22	Building Information Modelling (BIM)	Ralph Montague (ARCDOX)
NSAI/TC 58	Reactive pyrite in sub-floor hardcore material	Michael Maher (Golder)/Paul Forde (DBFL Consulting Engineers)

Other Technical Committees related to construction		
Reference	Committee Title	Chairperson
NSAI/TC 1	Gas Standards Consultative Committee	Liam Nolan (Gas Networks Ireland)
NSAI/TC 23	Universal Design Standards Consultative Committee	Gerald Craddock (National Disability Authority)
NSAI/ETC/TC 2	Electrical Installations	Charles Dunn (Independent Service Provider)

<sup>13</sup> Chairpersons of construction technical committees and construction related technical committees are members of the Construction Standards Consultative Committee (NSAI/TC 006). For further details on the NSAI Standards - Construction Sector Standardisation Programme, please refer to the Construction Standardisation programme database found here: <https://www.n Sai.ie/standards/sectors/construction-standards/>

# NSAI Construction Standards Consultative Committee - Scope and Functions



# NSAI Standards – Construction Sector Standardisation Programme

The Construction Sector Standardisation Programme will consist of national, European and international standardisation work. It aims to readily connect industry stakeholders' with their specific areas of interest with the view to improving stakeholder engagement with this work.

Given its expanse, work in the construction sector is driven by a wide array of stakeholders such as manufacturers, National/European Associations, laboratories and notified bodies, engineers, structural designers, academia, and researchers.

The European program for standardisation in the construction sector, in which NSAI participates, includes more than 3000 work items on product standards and test methods (for use in building and civil engineering). Of these, approximately 600 standards are or will be harmonized under the Construction Products Regulation (CPR), along with about 1500 supporting standards (test methods).

There are considerable national variations in construction practices which provide plenty of scope for national annexes to European documents or even purely national supplementary standards.

To ensure the efficient use of NSAI resources, the direction of standardisation activities will be guided by the Construction Standards Consultative Committee. In further recognition of the volume of standards activities, a focus group has been established to support the communication and wider promotion of construction standards.



# Construction Standardisation Programme Database

One of the challenges facing the Construction Standards Consultative Committee, was to provide information on the breadth and depth of the work programme, in a relatively accessible way. Making data easily discoverable will increase knowledge of NSAI Standards, and in turn enable stakeholders to locate, understand and benefit from their use. In order to address this need, the committee has worked with NSAI to develop a database, which is available on the NSAI website. The database contains comprehensive information about the National Technical Committees related to construction, including the associated European Technical committee which they mirror (see example below). A full version of the database can be downloaded from the NSAI Construction Sector Homepage.<sup>14</sup>

Given the level of standardisation within the Construction Sector (it is the biggest single area of work in the NSAI) the Database collates large volumes of information in an effort to gain successful insights into Standards Development activities, while providing full transparency, for the benefit of our stakeholders.<sup>15</sup>

The Construction Standards Consultative Committee, and National Technical committees will use this information to support the future direction of any standardisation activities in the area of construction.

NSAI TC	Technical Secretary	National Committee Title	International Committee Reference	International Committee Title
NSAI/TC 3	Ken Murphy	Concrete	CEN/TC 51	Cement and building limes
			CEN/TC 104	Concrete and related products
			CEN/TC 104/WG 15	Ground granulated blast furnace slag
			CEN/TC 125/WG 1	Masonry units
			CEN/TC 125/WG 2	Mortar
			CEN/TC 125/WG 3	Ancillary components
			CEN/TC 125/WG 5	Application of external rendering and internal plastering
			CEN/TC 154/SC 2	Aggregates for concrete, including those for use in roads and pavements Paving units and kerbs
			CEN/TC 178	Paving units and kerbs
			CEN/TC 178/WG 1	Precast concrete products
			CEN/TC 229	Precast concrete productsz
NSAI/TC 3/SC 1	Ken Murphy	Concrete	CEN/TC 104/SC 1	Concrete – Specification, performance, production and conformity
NSAI/TC 3/SC 2	Ken Murphy	Masonry	CEN/TC 125	Masonry
NSAI/TC 8	Pat Hayes	Timber	CEN/TC 38	Durability of wood and derived materials
			CEN/TC 112	Wood-based panels
			CEN/TC 124	Timber structures
			CEN/TC 124/WG 1	Test methods
			ISO/TC 165	Timber structures
			ISO/PC 287	Chain of custody of wood and wood-based products
			CEN/TC 124/WG 3	Glued laminated timber
CEN/TC 124/WG 6	Wood poles			

<sup>14</sup> <https://www.nsa.ie/standards/sectors/construction-standards/>

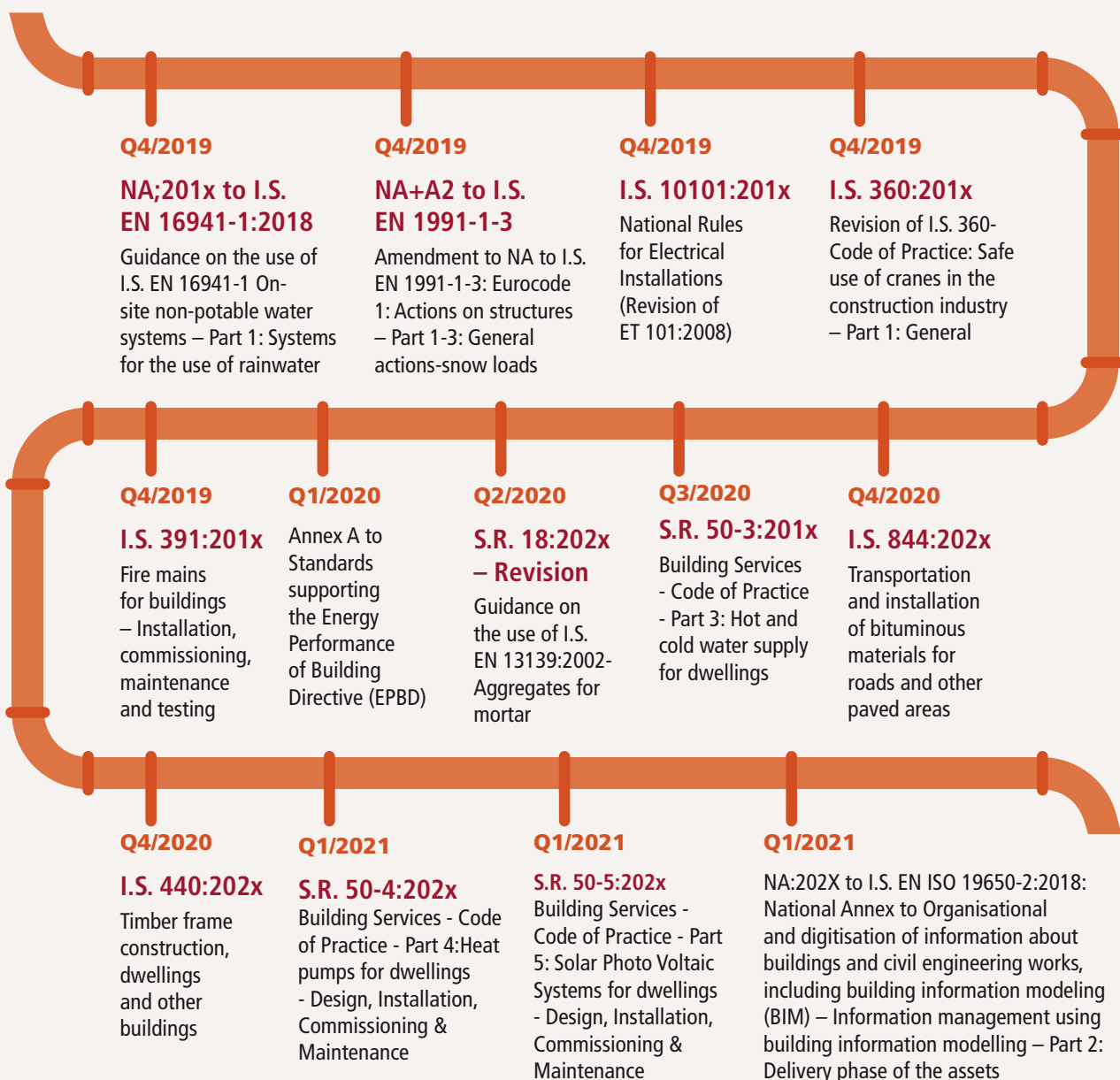
<sup>15</sup> Although the sources of data are dynamic, the database reflects a point in time and will be updated intermittently throughout the period of the NSAI Standards – Construction Sector Standardisation Programme to 2021

# National Standardisation Programme - Indigenous Standards and National Guidance Documents

NSAI membership of CEN and CENELEC carries with it an obligation to implement all European standards as an identical national standard and withdraw any conflicting indigenous standards. Occasionally, national standards are required to address particular local issues, bridge a gap between national and international guidance, or to support local regulation.

The following diagram presents a number of indigenous standards planned for delivery under the Construction Standardisation Programme.

For a comprehensive list of indigenous standards, please refer to the Construction Standardisation Programme Database found here: <https://www.nsa.ie/standards/sectors/construction-standards/>





# National Standardisation Programme - Maintenance of existing portfolio

An integral part of the Construction Sector Standardisation programme is the ongoing review and maintenance by Technical Committees of Irish National Standards (I.S.s), Standard Recommendations (S.R.s) and National Annexes, to reflect revisions to European standards (ENs) and national legislative and policy changes.

The standards shown below are a small sample of the extensive catalogue of technical standards and guidance documents in the construction sector available from the NSAI standards catalogue. See [www.standards.ie](http://www.standards.ie)



# National Guidance to Harmonised Standards falling under remit of Construction Products Regulation (EU) No 305/2011

Another key element of the national programme is the development of guidance supporting the implementation of harmonised European standardisation of the Construction Products Regulation (CPR). NSAI works closely with the Department of Housing, Planning and Local Government (DHPLG) in this regard.



**John Wickham,**  
Senior Adviser Building Standards  
– Department of Housing, Planning  
and Local Government

John is a Chartered Member of Engineers Ireland and Chartered Member of the Institute of Structural Engineers. In his current position as Senior Adviser Building Standards in the Department, he leads a Team supporting the implementation of the Building Control Reform Agenda, the provision of a strong and evolving building code in support of quality construction, sustainable development and compliance with relevant EU requirements

*“NSAI’s suite of Standard Recommendations contain important guidance on appropriate minimum performance levels for specific intended uses of construction products in Ireland, and are an essential reference for clients, specifiers, designers and builders to safeguard that all works should be carried out using “proper materials... which are fit for the use for which they are intended and for the conditions in which they are to be used” to ensure compliance with the Building Regulations.”*

*Building Control Reform has been a key priority for Government since 2011. The 2014 Building Control Amendment Regulations (BCAR) have brought a new order and discipline to bear on construction projects and promote a culture of compliance with the Building Regulations. Building Regulations aim to provide for the safety and welfare of people in and about buildings. The upkeep of Irish Standards referenced in the associated Technical Guidance Documents is essential to ensure that we continue to keep pace with technical innovation, climate change etc., ensuring safe and sustainable buildings in urban and rural areas.*

Currently, there are over 500 harmonised standards (hENs) covering a broad range of construction products. hENs have progressively become the norm as conflicting national standards (e.g. Irish and British Standards commonly used here) are being withdrawn.

NSAI has produced additional guidance to some harmonised standards (hENs) in the form of National Annexes or Standard Recommendations (SRs), setting out appropriate minimum performance levels for specific intended uses of the product in Ireland. A list of these can be viewed on the NSAI website. Engineers, architects, specifiers and builders should check National Annexes and Standard Recommendations to make sure they choose construction products suitable for their end use.

Harmonised standards under the Construction Products Regulation (EU) No 305/2011 are cited in the Official Journal of the European Union (OJEU),<sup>16</sup>

## Additional Guidance to Harmonised Standards falling under remit of Construction Products Regulation (EU) No 305/2011

I.S. EN Reference	Title	Title/source of national guidance
I.S. EN 771-1:2011+A1:2015	Specification for masonry units – Part 1: Clay masonry units	S.R. 325:2013+A2:2018+AC:2019
I.S. EN 771-2:2011+A1:2015	Specification for masonry units – Part 2: Calcium silicate masonry units	Recommendations for the design of masonry structures in Ireland to Eurocode 6
I.S. EN 771-3:2011+A1:2015	Specification for masonry units – Part 3: Aggregate concrete masonry units (Dense and lightweight aggregates)	NOTE: S.R. 325:2013+A2:2018+AC:2019
I.S. EN 771-4:2011+A1:2015	Specification for masonry units – Part 4: Autoclaved aerated concrete masonry units	Provides non-contradictory complementary information for use in Ireland of the following parts of Eurocode 6 series of standards together with their Irish National Annexes:
I.S. EN 771-5:2011+A1:2015	Specification for masonry units – Part 5: Manufactured stone masonry units	■ I.S. EN 1996-1-1, Design of masonry structures – Part 1-1: General rules for reinforced and unreinforced masonry structures;
I.S. EN 771-6:2011+A1:2015	Specification for masonry units – Part 6: Natural stone masonry units	

<sup>16</sup> OJEU list of hENs [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=uriserv:OJ.C\\_.2018.092.01.0139.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=uriserv:OJ.C_.2018.092.01.0139.01.ENG)

# National Guidance to Harmonised Standards falling under remit of Construction Products Regulation (EU) No 305/2011

I.S. EN Reference	Title	Title/source of national guidance
I.S. EN 845-1:2013+A1:2016	Specification for ancillary components for masonry – Part 1: Wall ties, tension straps, hangers and brackets	<ul style="list-style-type: none"> <li>■ I.S. EN 1996-1-2, Design of masonry structures – Part 1-2: General rules – Structural fire design;</li> <li>■ I.S. EN 1996-2, Design of masonry structures – Part 2: Design considerations, selection of materials and execution of masonry.</li> </ul> <p>Guidance is also provided on the use of masonry units (I.S. EN 771 series) ancillary components (I.S. EN 845 series), masonry mortars (I.S. EN 998 series) and I.S. EN 13914-1:2016</p>
I.S. EN 845-2:2013+A1:2016	Specification for ancillary components for masonry – Part 2: Lintels	
I.S. EN 845-3:2013+A1:2016	Specification for ancillary components for masonry – Part 3: Bed joint reinforcement of steel meshwork	
I.S. EN 998-1:2016	Specification for mortar for masonry – Part 1: Rendering and plastering mortar	
I.S. EN 998-2:2016	Specification for mortar for masonry – Part 2: Masonry mortar	
I.S. EN 10025-1:2004	Hot rolled products of structural steels – Part 1: General technical delivery conditions	National Annex NA (informative)
I.S. EN 12566-1:2000+A1:2003	Small wastewater treatment systems for up to 50 PT – Part 1: Prefabricated septic tanks	<p>S.R. 66: 2015 Standard Recommendation providing guidance to wastewater treatment products in compliance with the EN 12566 series of standards</p> <p>NOTE: Revision planned in 2020</p>
I.S. EN 12566-3:2005+A2:2013	Small wastewater treatment systems for up to 50 PT – Part 3: Packaged and/or site assembled domestic wastewater treatment plants	
I.S. EN 12566-4:2007	Small wastewater treatment systems for up to 50 PT – Part 4: Septic tanks assembled in situ from prefabricated kits	
I.S. EN 12566-6:2013	Small wastewater treatment systems for up to 50 PT – Part 6: Prefabricated treatment units for septic tank effluent	
I.S. EN 12620:2002+A1:2008	Aggregates for concrete	S.R. 16: 2016 Guidance on the use of I.S. EN 12620:2002+A1:2008 – Aggregates for concrete
I.S. EN 12737:2004+A1:2007	Precast concrete products – Floor slats for livestock	National Foreword and National Annex
I.S. EN 13043:2002+AC:2004	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas	S.R. 17: 2004 Guidance on the use of I.S. EN 13043:2002 – Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
I.S. EN 13108 Parts 1-7:2006+AC:2008	Bituminous mixtures – Material specifications	S.R. 28: 2018 Recommendation for the use and Implementation of the I.S. EN 13108 Series Bituminous Mixtures – Material Specifications
I.S. EN 13139:2002	Aggregates for mortar	S.R. 18: 2006 Guidance on the use of I.S. EN 13139:2002 – Aggregates for mortar Note: Revision in progress
I.S. EN 13242:2002+A1:2007	Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	S.R. 21: 2014+A1:2016 Guidance on the use of I.S. EN 13242:2002+A1:2007 Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction

# National Guidance to non-harmonised Irish Standards

As part of the National Standardisation Programme, the relevant construction Technical Committees have also developed national guidance to non-harmonised Irish Standards including the following:

I.S. EN Reference	Title	Title/source of national guidance
I.S. EN 13108 Parts 8, 20 and 21	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas Bituminous mixtures – Material specifications	S.R. 28: 2018 Recommendation for the use and implementation of the I.S. EN 13108 Series Bituminous Mixtures – Material Specifications
I.S. EN 10080:2005+NA:2010	Steel for the reinforcement of concrete – weldable reinforcing steel – general	National foreword with additional advice
I.S. EN 1717:2000+NA:2011	Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow	National Annex available
I.S. EN 206:2013+NA:2015	Concrete – Part 1: Specification, performance, production and conformity	National Annex available
I.S. EN 13670:2009+NA:2015	Execution of concrete structures	National Annex available
I.S. EN ISO 19650-2:2018	Organisation and digitisation of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling – Part 2: Delivery phase of the assets (ISO 19650-2:2018)	National Annex planned
I.S. 888:2016	Code of Practice for the procurement and use of unbound granular fill hardcore material for use under concrete floors	Developed in response to a recommendation of the Governments Report of the Pyrite Panel 2012

See the NSAI standards catalogue for the full range of standards and guidance documents available: [www.standards.ie](http://www.standards.ie)

# Irish Standards referenced in the Technical Guidance Documents to the national Building Regulations

There are over 400 Irish standards and Standard Recommendations referenced in the Technical Guidance Documents (TGDs) supporting the Building Regulations in Ireland.

The following table provides information for a sample of these standards. Further information is available from the Department of Housing Planning and Local Government website<sup>17</sup> and a full list of these standards are available on the NSAI Construction Sector Webpage.<sup>18</sup>

Reference	Title	Publication Date	Referenced in:
I.S. 6:2004	Concrete Sewer Pipes	04/03/2005	Building Regs TGD H
I.S. 9:1976	Galvanised Cisterns for Domestic Water Supply	01/05/1976	Building Regs TGD G
I.S. 36-1:1986	Bitumen Roofing Felts – Part 1: Fibre and Glass Fibre Based Felts	23/07/1986	Building Regs TGD B Vol. 2
I.S. 36-2:1987	Bitumen Roofing Felts – Part 2: Polyester Based Felts	20/07/1987	Building Regs TGD B Vol. 2
I.S. 57-1:1987	Damp-Proof Courses – Part 1: Bitumen Damp-Proof Courses	02/06/1987	Building Regs TGD C
I.S. 57-2:1987	Damp-Proof Courses – Part 2: Polyethylene Damp-Proof Courses	27/04/1987	Building Regs TGD C
I.S. 123:1964	Unplasticized PVC Pipe for Cold Water Supply	27/05/1964	Building Regs TGD G
I.S. 132-1:1975	Stainless Steel Sinks for Domestic Purposes (Metric)	20/11/1975	Building Regs TGD G
I.S. 132:1964	Metal Sinks for Domestic Purposes	17/12/1964	Building Regs TGD G
I.S. 134:1977	Polyethylene Pipe Type 32	16/11/1977	Building Regs TGD G
I.S. 135:1975	Polyethylene Pipe Type 50	26/05/1975	Building Regs TGD G
I.S. 156:1984	Cast Iron Baths	31/12/1984	Building Regs TGD G
I.S. 158:1987	Closed String Wood Stairs	12/05/1987	Building Regs TGD K
I.S. 161:1975	Copper Direct Cylinders for Domestic Purposes	26/01/1976	Building Regs TGD G
I.S. 161:1975	Copper Direct Cylinders for Domestic Purposes	26/01/1976	Building Regs TGD L

<sup>17</sup> Department of Housing, Planning and Local Government, Building Control Regulations

<https://www.housing.gov.ie/housing/building-standards/building-regulations/building-control>

<sup>18</sup> NSAI Construction Sector Webpage:<https://www.nsa.ie/standards/sectors/construction-standards/>

# European Standardisation Programme

## Committee structure – how it works

NSAI Technical Committees monitor, comment and vote on draft Standards being developed by International (ISO/IEC) and European (CEN/CENELEC) Technical Committees. The international and/or European Technical Committee is “mirrored” to the NSAI Standards Committee.

NSAI Construction Technical Committees are also responsible for developing indigenous Irish Standards. These Committees may have a hierarchy of subcommittees dealing with different aspects of an area related to construction.

## Eurocodes Structure

A key flagship activity in the Construction Sector is the development of the Structural Eurocodes. The Eurocodes are a set of harmonised structural design codes for building and civil engineering works specifying how structural design should be conducted within EU & EFTA member states and are cited in Irish Building Regulations (TGD Part A). NSAI Eurocodes Committee TC/15 is responsible for monitoring the work of CEN TC/250 and how the ‘Structural Eurocodes’ design standards are to be implemented in Ireland.

The Eurocode National Annexes allow for a national choice or nationally determined parameters NDP, where such choices/parameters are left open in the Eurocodes for each country to determine (i.e. in the areas of safety and climatic conditions).

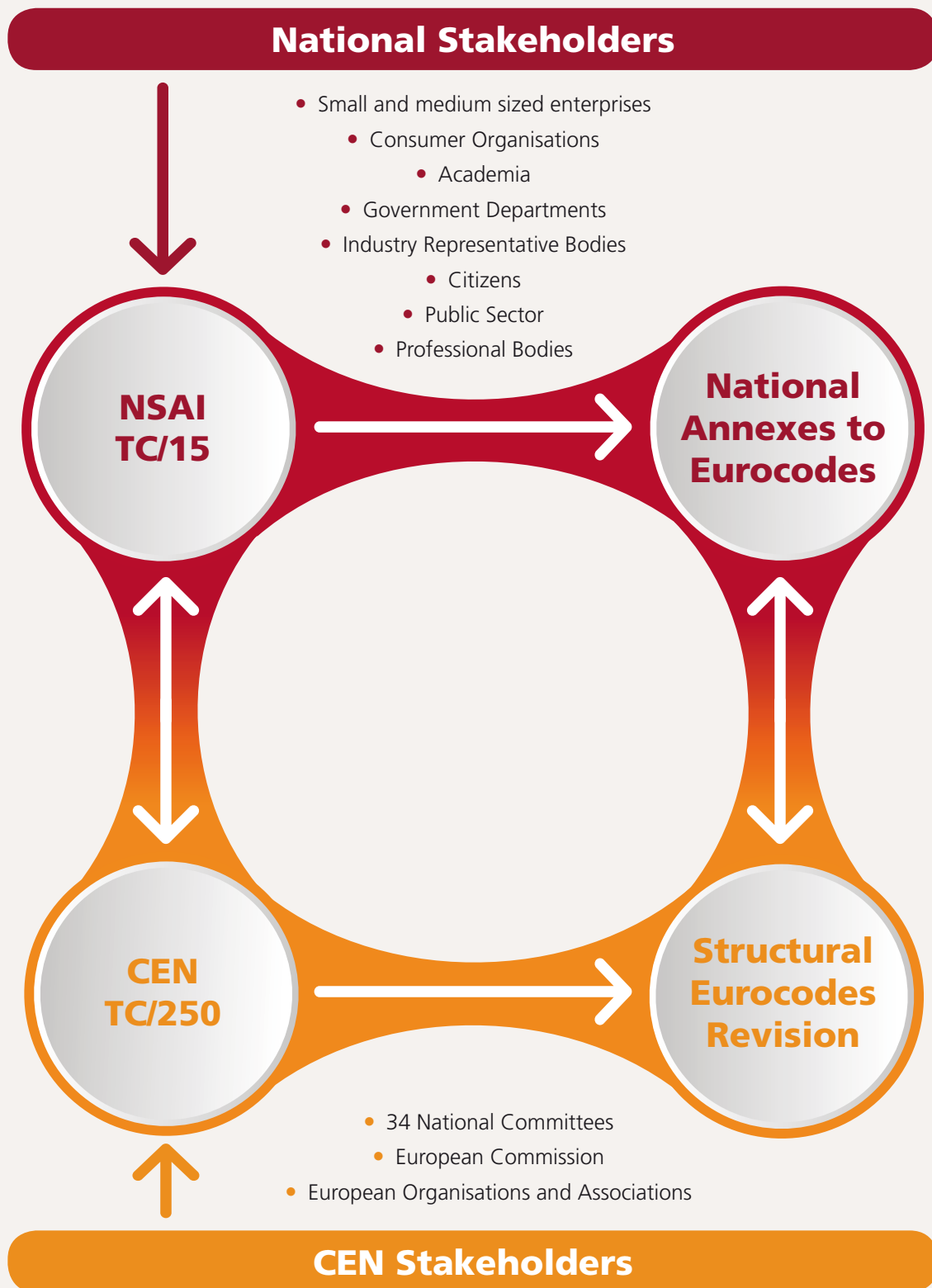
Over the next 2 to 3 years, NSAI Eurocodes Committee will be responsible for overseeing the review and revision of over 40 Eurocode National Annexes, to accompany the implementation of the next phase of the Eurocodes to be delivered.

The relationship between the national and European structures is shown in the figure on page 22. The Eurocode committee, chaired by Jim Mansfield, has 9 subcommittees, involving over 20 experts. These experts are considering in detail, the proposed codes and NDPs for concrete, steel, timber, masonry, and geotechnical design applications in Ireland.



**Jim Mansfield**  
Chair Eurocodes Committee

*“I believe it is extremely important for practitioners, whether in design, construction industry or the academic life to become involved in Standardisation. This is of huge value in terms of Continuing Professional Development and is recognised as such by Engineering Institutions. It develops one on a personal and professional basis.”*



# The Way Forward



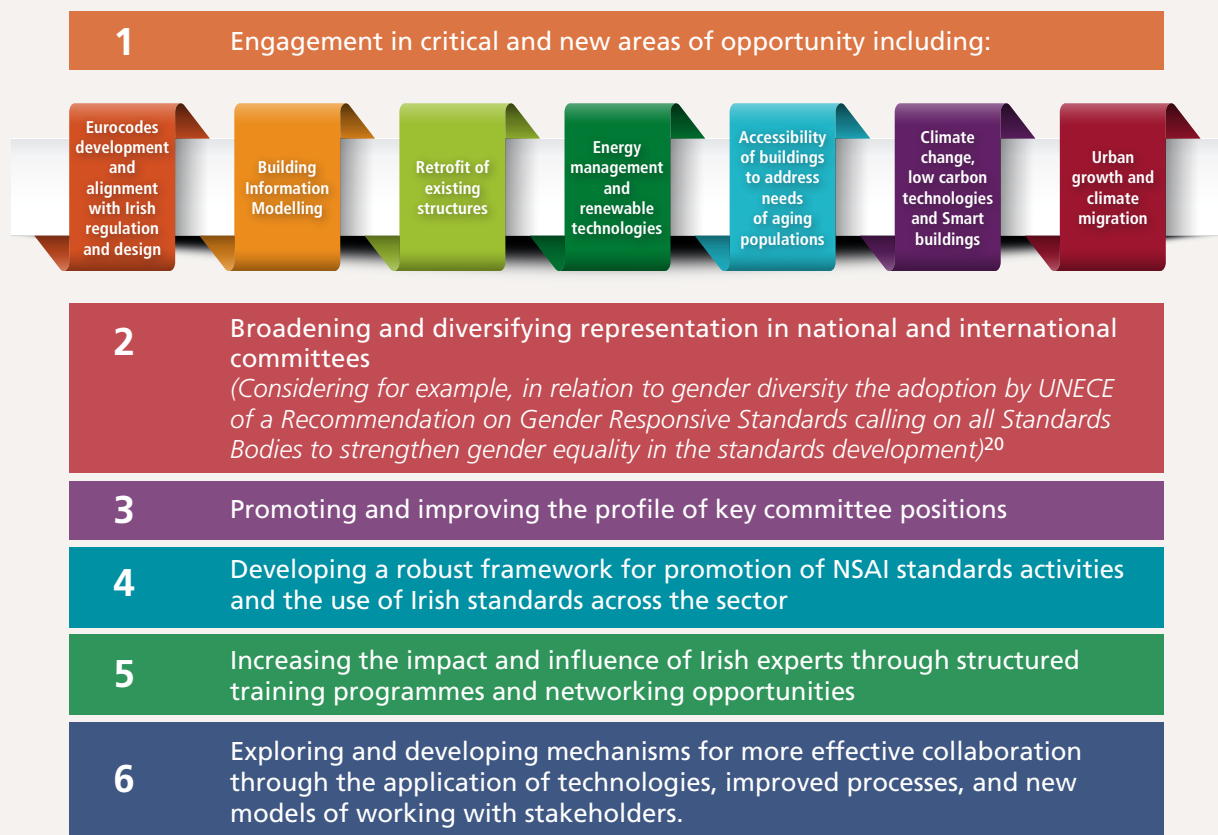
**Yvonne Wylde**  
Manager Standards Technical

*"In recent years, our team has focused on strengthening engagement with all involved in construction in Ireland, to ensure NSAI and stakeholder resources are best directed to the needs of those responsible for the built environment in Ireland."*

*"NSAI welcome the establishment of the Construction Sector Group made up of representatives of key industry bodies and "ensures regular and open dialogue between government and industry on how best to achieve and maintain a sustainable and innovative construction sector positioned to successfully deliver on the commitments in Project Ireland 2040."<sup>19</sup>*

Now, with the framework and work program in place, NSAI will continue to support government and industry in this work and in facing other opportunities and challenges that will arise.

Remembering that the majority of standards for construction and construction products are developed at European level, and that the nature of construction across the work is evolving to reflect all kinds of change, from technological change to climate change, the team will continue to work together with industry associations and professional bodies to set and meet realistic targets for the future, including:



<sup>19</sup> Department of Public Expenditure and Reform policy information on the Construction Sector Group <https://www.gov.ie/en/policy-information/cae030-construction-sector-group/>

<sup>20</sup> UNECE Annual Report 2018 [https://www.unece.org/fileadmin/DAM/UNECE\\_Annual\\_Report\\_2018\\_23x25\\_final\\_for\\_WEB.pdf](https://www.unece.org/fileadmin/DAM/UNECE_Annual_Report_2018_23x25_final_for_WEB.pdf)











# NSAI

---

**Head Office**

1 Swift Square,  
Northwood, Santry,  
Dublin 9, Ireland  
D09 A0E4

**T** +353 1 807 3800

**F** +353 1 807 3838

**E** [info@nsai.ie](mailto:info@nsai.ie)

**NSAI.ie**