



ANNUAL REPORT 2020

NSAI TECHNICAL COMMITTEE – NSAI/TC 015

NATIONAL EUROCODES CONSULTATIVE
COMMITTEE

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1 Chairman's Statement

The Eurocodes, an aspiration through the 1990's and 2000's, are now an established part of structural engineering design and construction both here in Ireland and throughout Europe including the UK. They are part of the harmonised standards complying with European mandates and the Construction Products Regulations. They are referred to in the Technical Guidance Document (TGD) A of the Building Regulations and are the prima facie method of design compliance with those regulations. These standards are also used in many other parts of the world outside the EU, either directly or indirectly as a basis for the codes of different countries.

The current standards include Basis of Design, Actions on Structures and Geotechnical design as material independent standards while there are also material detailing and design standards for the most common building materials, concrete, steel, composite design, masonry, timber and aluminium.

In addition, horizontal groups, dealing with bridges and fire, connect across the Eurocode standards so that equivalent levels of safety apply right across the board.

The European committee for standardization's Technical Committee, CEN/TC 250 'Structural Eurocodes', and its sub-committees were tasked with revising the current Eurocodes standards to develop more user-friendly codes while also incorporating new performance requirements, design methods and advances in materials technology. This is resulting in a considerable change in the Eurocodes standards with codes such as EN 1990, 'Basis of Design', being substantially re-written and updated which will affect the European construction industry as a whole. Further to this, new documents in the areas of Actions on structures, Geotechnical design, the assessment of existing structures and glass used as a structural material are also being developed.

The development of the 2nd generation of Eurocodes as mandated by the EC is well underway. 2020 saw the CEN/TC 250 'Structural Eurocodes' mandated work continue at pace with the launch of the enquiry draft of the new prEN 1990 – Eurocode – Basis of structural and geotechnical design being a further milestone reached.

The work of our Technical Committee, and its sub-committees is steadily increasing, monitoring the work of CEN/TC 250, along with other CEN technical committees involved in developing execution standards for materials used in construction. New volunteers are always welcome to apply and take part in our work.

I would like to thank all the members and convenors for their diligent efforts in this work to date, and I would also like to acknowledge the great support we receive from the NSAI.

Jim Mansfield

Chairman TC015

2 Introduction

The Eurocodes are a set of harmonised structural design codes for building and civil engineering works specifying how structural design should be conducted within the European Union and EFTA countries. The National Eurocodes Consultative Committee (NSAI/TC 015) was established in 2013 to monitor work being carried out on Eurocodes at European level. Since its establishment, the work of the committee has increased year on year. As mentioned in the Chairman's statement, 2020 saw the EC mandated project to develop the 2nd generation of Eurocodes continue its steady progress, with the completion of Phase 2, progress of phases 3 & 4, and the launch of the formal enquiry of prEN 1990 – Basis of structural and geotechnical design and 2 other formal drafts for the public to review including prEN 1993-1-1 – Eurocode 3 – Design of steel structures – General rules.



The industry currently has 12 experts involved in international work

3 Scope of TC

NSAI/TC 015 is responsible for monitoring the work of CEN/TC 250 and how the 'Structural Eurocodes' design standards are to be implemented in Ireland. In order to do this, there are 8 sub-committees under the remit of NSAI/TC 015, each with its own specific section of the Eurocode suite to monitor, see section 4.1 - Structure.

The Eurocodes Consultative Committee and its subcommittees also develop and update Eurocode National Annexes for Ireland which allow for national choice or nationally determined parameters (NDP), where such choices/parameters are left open in the Eurocodes (i.e. in the areas of safety of works and environmental conditions).

The committee also mirrors other CEN technical committees involved in the development of execution standards for steel (CEN/TC 135) as well as geotechnical matters related to earthworks and testing (CEN/TC 396 and ISO/TC 182).

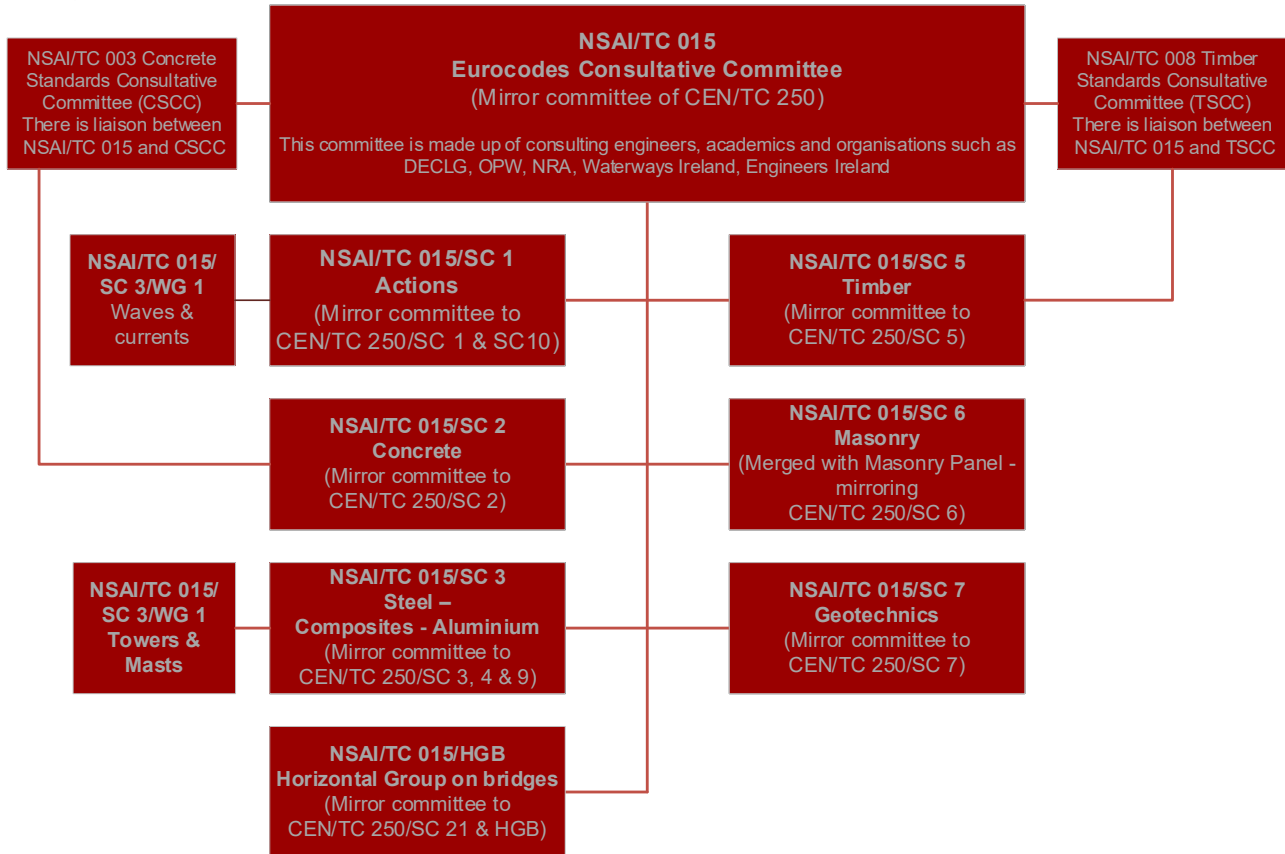
The committee and its subcommittees mirror the following international committees:

Committee Name	Committee Title
CEN/TC 250	Structural Eurocodes
CEN/TC 250 WG 1	Policy, procedures and links with other standards
CEN/TC 250/SC 10	EN 1990 Basis of structural design
CEN/TC 250/SC 1	Eurocode 1: Actions on Structures
CEN/TC 250/SC 2	Eurocode 2: Design of concrete structures
CEN/TC 250/SC 3	Eurocode 3: Design of steel structures
CEN/TC 135	Execution of steel structures and aluminium structures
CEN/TC 250/SC 4	Eurocode 4: Design of composite steel and concrete structures
CEN/TC 250/SC 5	Eurocode 5: Design of timber structures
CEN/TC 250/SC 6	Eurocode 6: Design of masonry structures
CEN/TC 250/SC 7	Eurocode 7: Geotechnical design
CEN/TC 396	Earthworks
ISO/TC 182	Geotechnics
CEN/TC 250/SC 9	Eurocode 9: Design of aluminium structures
CEN/TC 250 Horizontal Group Bridges	
CEN/TC 250 Horizontal Group Fire	

4 Structure and Membership

4.1 Structure

The Figure below illustrates the structure of the Committee:



4.2 Members

2020 saw a number of new members join and contribute to the committee. The current members are listed below:

Organisation	Role
Kavanagh Mansfield & Partners	NSAI/TC 015 Committee Chair & NSAI/TC 015 SC1 Chair
Trinity College Dublin	National committee member
TII	National committee member & NSAI/TC 015 HGB Chair
Cork Institute of Technology	National committee member
DHLGH	National committee member
O'Connor Sutton Cronin	National committee member & NSAI/TC 015 SC4 Chair
AGL	National committee member & NSAI/TC 015 SC7 Chair
Private Consultant	National committee member & NSAI/TC 015 SC5 Chair
Waterways Ireland	National committee member
Private Consultant	National committee member & NSAI/TC 015 HGF Chair
Cork Institute of Technology	National committee member
Dublin Institute of Technology	National committee member & NSAI/TC 015 SC2 Chair

ARUP	National committee member
Trinity College Dublin	National committee member
Trinity College Dublin	National committee member
VCL	National committee member
Cork Institute of Technology	National committee member
Private Consultant	National committee member & NSAI/TC 015 SC3 Chair
Banagher Precast Concrete	National committee member
OPW	National committee member
DHLGH	National committee member

5 Summary of 2020 Activities

5.1 National

A number of amendments and corrigenda to Irish NAs were published in 2020. The details of these publications are set out in section 6.1.

As the development of the 2nd generation of Eurocodes, (under mandate M/515), progressed the activity at national committee and sub-committee level was high, monitoring the developments of the new Eurocode drafts. This was reflected in the increased number of TC 015 sub-committee meetings (held virtually/on-line due to Covid-19 restrictions) and the submission of comments on working drafts and formal enquiry, (prEN), drafts throughout 2020.

The committee members and sub-committee members reviewed a number of 2nd generation Eurocode Formal Enquiry and Formal Vote drafts. This work will increase further in 2021 with the launch of 13 further Formal Enquiry drafts, 5 Formal Vote drafts for ratification and the circulation of the final phase 3 drafts for comment.

2020 saw the establishment of a new working group on Waves and Currents under NSAI/TC 015/SC 1 to specifically monitor the development of a new Eurocode EN 1991-1-8 Actions on structures due to waves and currents.

The NSAI successfully hosted the Eurocode 5 Design of Timber structures - CEN/TC 250/SC 5 committee meetings between the 9th and 13th March 2020 in Kilkenny, with 18 meetings taking place over the course of the 5 days. This was one of the last international meetings held in person before Covid-19 restrictions came into effect resulting in the suspension of all in-person standardization meetings globally.

5.1.1 Meetings

Committee members attended the following national TC 015 meeting on-line (due to Covid-19 restrictions) in 2020:

Meeting	Date
14th Meeting of NSAI/TC 015	8 th December 2020

Further to the meeting of NSAI/TC 015 in December, which was principally to complete the review and finalise comments on prEN 1990, there were an additional 17 meetings of the sub-committees under TC 015. The majority of these meetings were to receive feedback from members on the enquiry drafts of prEN 1990 and prEN 1993-1-1 as well as the new CEN TS 17440 Technical Specification on the assessment of existing structures. Further details on the subcommittee meetings are summarised in section 5.2.3.

5.2 International

Despite Covid-19 restrictions, attendance of Irish experts at "virtual/on-line" International meetings was in line with previous years. CEN/TC 250/SC 2 met an unprecedented 3 times in 1 year in preparing a draft of prEN 1992-1-1 for formal enquiry which is expected to be launched in September 2021. CEN/TC 135 also held 3 meetings this year to try and resolve issues around the publication of a revised EN 1090-1 and the associated issues with the citation of revised harmonised standards (hENs) in the OJEU.

5.2.1 Meetings

Committee members attended the following international meetings in 2020:

Committee name	Location	Date
TC 250 SC1	Berlin	February 2020
TC 250 SC5	Kilkenny	March 2020
TC 250 SC 2 & WG1	On-line	March 2020
TC 250 SC 3	On-line	April 2020
TC 250 SC 6/WG 1	On-line	April 2020
TC 250 SC 7	On-line	May 2020
TC 250 SC 2 & WG1	On-line	June 2020
TC 250 SC5 WG 9	On-line	June 2020
TC 250 SC 1	On-line	June 2020
TC250 SC 2	On-line	September 2020
TC 135	On-line	September 2020
TC 250 SC5	On-line	September 2020
TC 250 SC 3	On-line	October 2020
TC 250/SC 6/WG 1	On-line	October 2020
TC250 SC 2	On-line	November 2020
TC250/SC7/TG MEETINGS	On-line	November 2020
BSI B252/1	On-line	November 2020
TC 135	On-line	December 2020
TC 135	On-line	December 2020

5.2.2 International Work

NSAI/TC 015 committee members have been monitoring the development of the 2nd generation Eurocode drafts closely with a significant number of members attending international meetings to discuss the drafts and present Ireland's position while also reporting back to the National committee and its sub-committees on developments and raising potential issues with these drafts. The work of the committee and sub-committees in this regard is of particular importance as CEN/TC 250 look to reduce the number of National Choices/Nationally Determined Parameters (NDPs) in the 2nd generation of Eurocodes which will have a significant impact upon the National Annexes which accompany the Eurocodes.

NSAI TC015 National Committee members Trevor Orr and Alan O'Connor were also actively involved in the development of the 2nd generation Eurocode standards in 2020. Alan O'Connor is the Project Team Leader of CEN/TC 250 WG6 T2 focusing on incorporating robustness rules into material related Eurocode parts while also being a project team member of CEN/TC 250 WG2 T2 to develop the CEN TS 17440 for the assessment of existing structures (published in 2020) into a European standard (EN).

2020 saw the completion of the work of the Eurocode 7 M/515 Phase 2 Project Team 4 which was tasked with developing text on the topics of foundations, slopes, and ground improvement and of which Trevor Orr was a member.

5.2.3 International Standards Reviewed

A number of formal enquiry (prEN) draft Eurocode standards were launched in late 2019 and into 2020. There was a significant number of sub-committee meetings held to discuss and achieve consensus on the comments on these drafts. The formal enquiry drafts and formal vote drafts which were reviewed, commented and voted upon in 2020 were as follows:

1. prEN 1996-1-1- Eurocode 6. Design of masonry structures. General rules
2. Fpr CEN/TC 17440 - Assessment and Retrofitting of Existing Structures - General Rules (New)
3. prEN 1990 - Eurocode. Basis of structural & Geotechnical design (excluding Annex A2 for bridges)
4. prEN 1993-1-1 - Eurocode 3. Design of steel structures. General rules and rules for buildings

There was also a significant number of informal enquiry drafts (working drafts) in the areas of Eurocode 5 on timber and Eurocode 7 on geotechnical design which were also reviewed during 2020.

A special meeting of all NSAI/TC 015 sub-committee conveners was held to establish the approach needed to review prEN 1990 – Basis of structural and geotechnical design. All sub-committees subsequently met in Q4 of 2020 to discuss this overarching Eurocode document due to the changes being made to the standard.

Two special meetings of NSAI TC 15 members were held to advise the NSAI on the approach it should take on the Fpr CEN TS 17440 for the assessment of existing structures, where it was decided that a National Annex would not be required at this time, but that one would be needed when TS 17440 was redeveloped as an EN standard.

NSAI/TC 015/SC 7 – Geotechnical design, met on three occasions. The meetings focused on the development of comments on the working drafts of the new Eurocode 7 standards (all 3 parts) and on prEN 1990.

NSAI/TC 015/SC 3 – Steel, also met on three occasions. The meetings focused on the formal enquiry draft of prEN 1993-1-1 and to establish what approach Irish stakeholders wished to see taken with the harmonised standard for steel fabrication - FprEN 1090-1.

5.2.4 International Voting Results

The following CEN/TC 250 ballots were voted on by NSAI/TC 15 members during 2020.

Reference	Vote Result	Closed on
prEN 1996-1-1:2019	Approved	2020-01-16
Reappointment of CEN/TC 250/SC 2 Chairman	Approved	2020-02-05
Reappointment of CEN/TC 250/SC 9 Chairperson	Approved	2020-02-05
Reappointment CEN/TC 250/SC 5 Chairman	Approved	2020-02-24
FprCEN/TS 17440	Approved	2020-03-30
Publish EN 1993-1-1 and CEN TS 1993-1-101 as a package	Approved	2020-04-17
Re-appointment Convenor AHG Crane Supporting Structures	Approved	2020-04-15
Reappointment Convenor AHG Towers Masts and Chimneys	Approved	2020-04-15
New work item proposal prEN 1991-2	Approved	2020-05-01
Reappointment Convenor AHG Fatigue	Approved	2020-05-01
Re-appointment CEN/TC 250/SC 4 Chairman	Approved	2020-05-27
Re-appointment of CEN/TC 250 HG-Bridge Convenor	Approved	2020-05-27
Activation of preliminary work item 00250209 prEN 1993-1-8	Approved	2020-07-06
Integration of EN 1992-3 into the revised EN 1992-1-1	Approved	2020-08-31
Adoption of a preliminary work item EN 1991-1-3	Approved	2020-09-25
Adoption of a preliminary work item EN 1991-1-4	Approved	2020-09-25
Adoption of a preliminary work item EN 1991-1-5	Approved	2020-09-25
Adoption of a preliminary work item EN 1991-1-6	Approved	2020-09-25
Adoption of a preliminary work item EN 1991-1-7	Approved	2020-09-25
Adoption of a preliminary work item EN 1991-3	Approved	2020-09-25
Adoption of a preliminary work item EN_1991-4	Approved	2020-09-25
Adoption of a PWI EN 1991-1-1	Approved	2020-09-25
New work item proposal EN 1991-1-2	Approved	2020-09-25
Future of EN 1993-1-4 2006 prA2 after CEN enquiry	Approved	2020-10-15
New work item proposal EN 1992-1-1	Approved	2020-11-05
New work item proposal EN 1992-1-2	Approved	2020-11-05
Options for location of bridge specific content	Approved	2020-11-05
Modified title and scope WI 00250211 prCEN/TS 19100-2	Approved	2020-11-19
Tolerance request for work item 00250259 prEN 1991-1-2	Approved	2020-11-19
NWIP CEN TR Bonded-in-rods in timber structures	Approved	2020-12-10
Appointment of CEN/TC 250 liaison officer to CEN/TC 459/SC 4	Approved	2020-12-17
prEN 1990	Disapproved	2021-01-04
prEN 1993-1-1	Approved	2020-12-17

5.3 Regulatory Development/Update

As the work of the committee carried out to date predominantly relates to the review of 'Informal Enquiry' drafts (working drafts) of the 2nd generation Eurocodes there is currently no impact on designing to the Irish Building Regulations at present. However as the formal enquiry drafts are being launched a clearer picture of how the new Eurocodes might impact on technical guidance documents (TGDs) developed by the Department of Housing Local Government and Heritage (DHLGH) is now emerging. For example, the new Annex B of prEN 1990 entitled "Technical management measures for design and execution" is an example of where elements of the content in the Annex may extend into the area of national regulation in Ireland. Careful consideration by all stakeholders on how to address this content and give guidance on this Annex within the Irish National Annex to the new version of EN 1990 will be required.

Bridge specific parts which impact on Government Agencies such as TII, Waterways Ireland and the OPW will be issued from 2021 onwards and these agencies will need to review these parts closely to see if any changes will have an impact on bridge construction in the future.

6 Irish Publications/Reviews

6.1 Publications

The committee published corrigenda and amendments to the Irish National Annexes of the following Eurocodes:

- Amendment 2 to NA to I.S. EN 1991-1-3: Actions on structures. General actions - snow loads;
- Corrigendum to NA to I.S. EN 1992-1-1: Design of concrete structure – General rules;
- Amendment 2 to NA to I.S. EN 1993-1-6:2007 A2:2017: Design of Steel Structures. General rules -strength and stability of shell structures, and;
- Amendment to NA to I.S. EN 1993-3-1: Design of steel structures. Towers, masts and chimneys – towers and masts

6.2 Reviews

The committee and its sub-committees initiated a review of a number of National Annexes in-line with the launch of formal enquiry drafts which were issued during the course of 2020, see 5.2.3.

7 Work programme for 2021 onwards

2021 will see NSAI/TC 015 members continue their dedicated work of monitoring and reviewing 'Informal Enquiry' drafts of the 2nd generation Eurocodes as they become available.

However, 2021 will also see the continued release of formal enquiry Eurocode part drafts gathering pace, with the Eurocode 2 (prEN 1992- Design of Concrete Structures) parts and prEN 1990 bridge specific sections (i.e. Annex A2) chief among them. The Eurocode 2 parts are scheduled to be issued on the 2nd of September 2021. These drafts will have a significant impact on the concrete industry in Ireland due to the introduction of new performance based rules related to durability, and the move from the current Deemed to Satisfy (DtS) rules to an Exposure Resistance Class (ERC) approach which will require close cooperation with the NSAI's CSCC (TC 003) committee when developing comments and the Irish National Annexes for EN 1992 and EN 206 in the future.

The number of 2nd Generation Eurocode enquiry and formal vote drafts to be issued in 2021 are listed below. Reviews of the existing Irish National Annexes to all of the Eurocode parts listed below will also commence in 2021 to assess the work needed to revise them taking into account the changes in national choices and NDPs which may arise.

The work programme for the development of future National Annexes and a business case for further resources to support the significant body of work in the coming years will be further refined in 2021 as the Date of Publication (DoP) and Date of Withdrawal (DoW) are officially finalised and agreed by the CEN BT and at National level.

Date of issue for CEN enquiry	Number of drafts issued	CEN Enquiry & Formal vote draft
04/03/2021	6	prEN 1993-1-8
		prEN 1999-1-1
		prEN 1999-1-2
		prEN 1999-1-3
		prEN 1999-1-4
		prEN 1999-1-5
01/4/2021 (Formal Vote)	5	Fpr CEN/TS 19100-1 - Structural glass - Part 1: Basis of design and materials
		Fpr CEN/TS 19100-2 - Structural glass - Part 2: Perpendicularly loaded glass plates
		Fpr CEN/TS 19100-3 - Structural glass - Part 3: Design of in/plane loaded glass elements and special joints
		Fpr CEN/TS 1995-3 - Timber Concrete Composites
		Fpr EN 1996-1-1 - Design of masonry structures. General rules
2/09/2021	7	prEN 1990 Bridge specific parts
		prEN 1991-1-2
		prEN 1992-1-1
		prEN 1992-1-2
		prEN 1992-2
		prEN 1996-3
		prEN 1991-2

NSAI/TC 015/SC 3 – Steel will also have additional work in 2021 as the sub-committee will need to keep abreast of the changes being proposed as part of the EC's review of the Construction Products Regulation (CPR – Regulation No. 305/2011) and the CPR Acquis process launched in Q4 of 2020 as these reviews will have a significant impact on harmonised standards, CE marking and the single market over the coming years.

8 Additional Information

In recognition of his 30+ years service to the area of Geotechnical design standardisation and to mark the completion of his work in drafting and developing the new Eurocode 7 Part 3 standard as part of the Eurocode 7 M/515 Phase 2 Project Team 4, Trevor Orr was awarded the NSAI's 1997 award at the NSAI's Standards Forum on the 14th October 2020.

CMG Events held a Eurocode seminar for engineers and those involved in BCAR in October of 2020 as well. The Keynote address was given by the Chairman of CEN/TC 250 Prof. Steve Denton. The event was well attended and would not have been possible without the excellent support of NSAI TC 015 sub-committee conveners and members alike.

The NSAI launched a free 2-part webinar on the Eurocodes in Ireland which is available on the NSAI website. The NSAI website was also updated to include new content related to the Eurocodes, highlighting the move towards the 2nd Generation Eurocodes. This promotional content was supported by the publication of articles on the 2nd Generation Eurocodes, most notably in the Engineer's Ireland Journal.