



STANDARDS
Australia

Standardisation and Advanced Fibres

Monique English
Engagement Manager
**Manufacturing and
Processing Sector**

Ben Russell
Engagement Manager
**Consumer Products and
Public Safety Sector**

Who is Standards Australia?



- Independent, not-for-profit, non-government – formed 1922
- Develop and adopt standards in the national interest
- Represent Australia on ISO & IEC
- A trusted partner of government, industry and the community



Represents Australia at the ISO and IEC



Multi-discipline and cross-sector,
including conformity assessment



Electro-technology, including
medical devices

There can be few organisations that have made such an essential contribution to our quality of life as Standards Australia while leaving so few footprints in public awareness

What Is A Standard?



-
- Standards are **voluntary, consensus** solutions
 - They document an **agreement** on how a material, product, process, or service should be **specified, performed or delivered**
 - Keep people **safe** and **ensure things work**
 - Create **confidence** and provide **security** for investment

We hold an MOU with the Commonwealth



Our role as the National Standards Body



Competition in the distribution of standards



Flexibility in pricing structures



Public access to Australian Standards

Represents Australia at the ISO and IEC



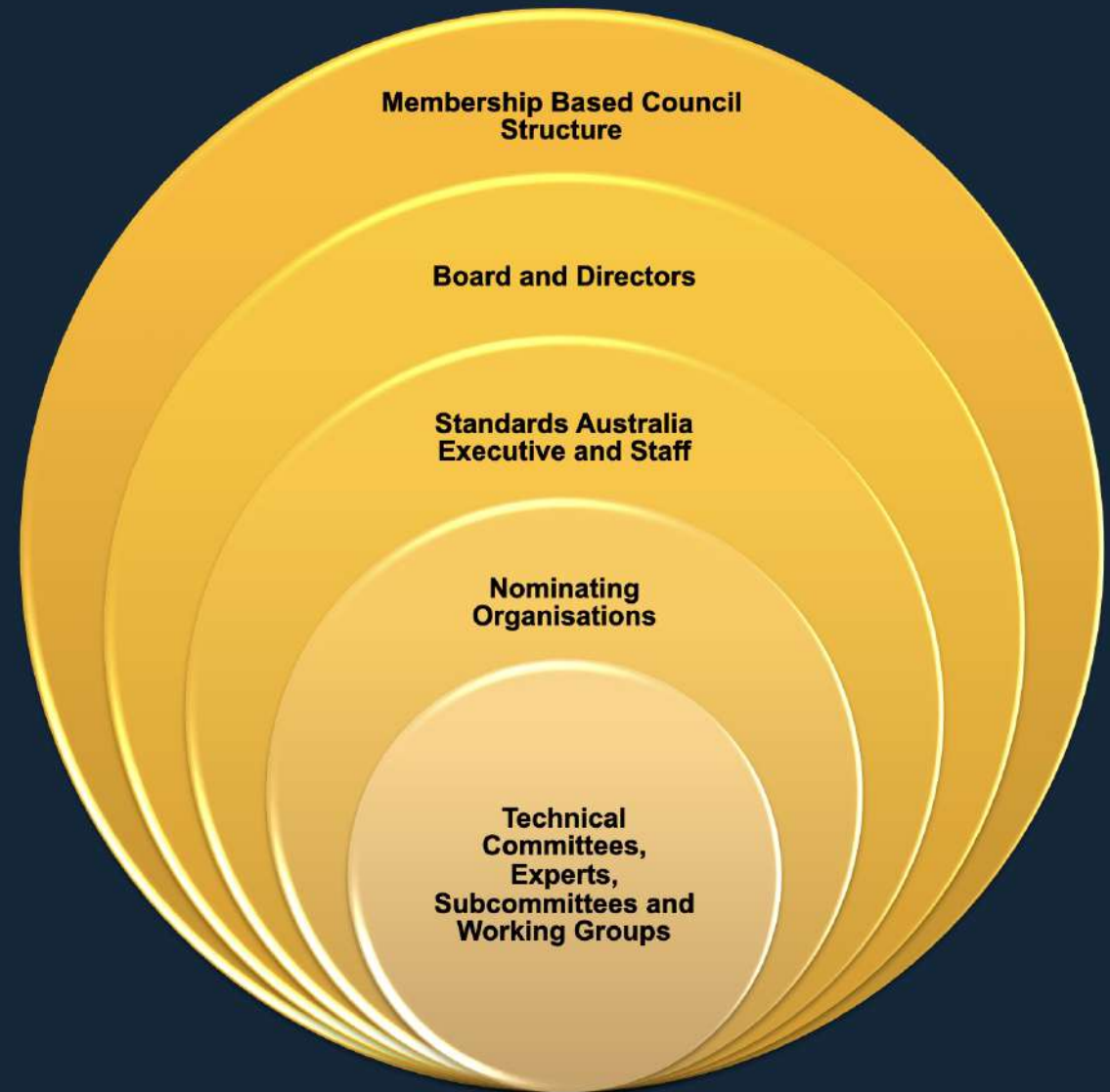
Multi-discipline and cross-sector,
including conformity assessment



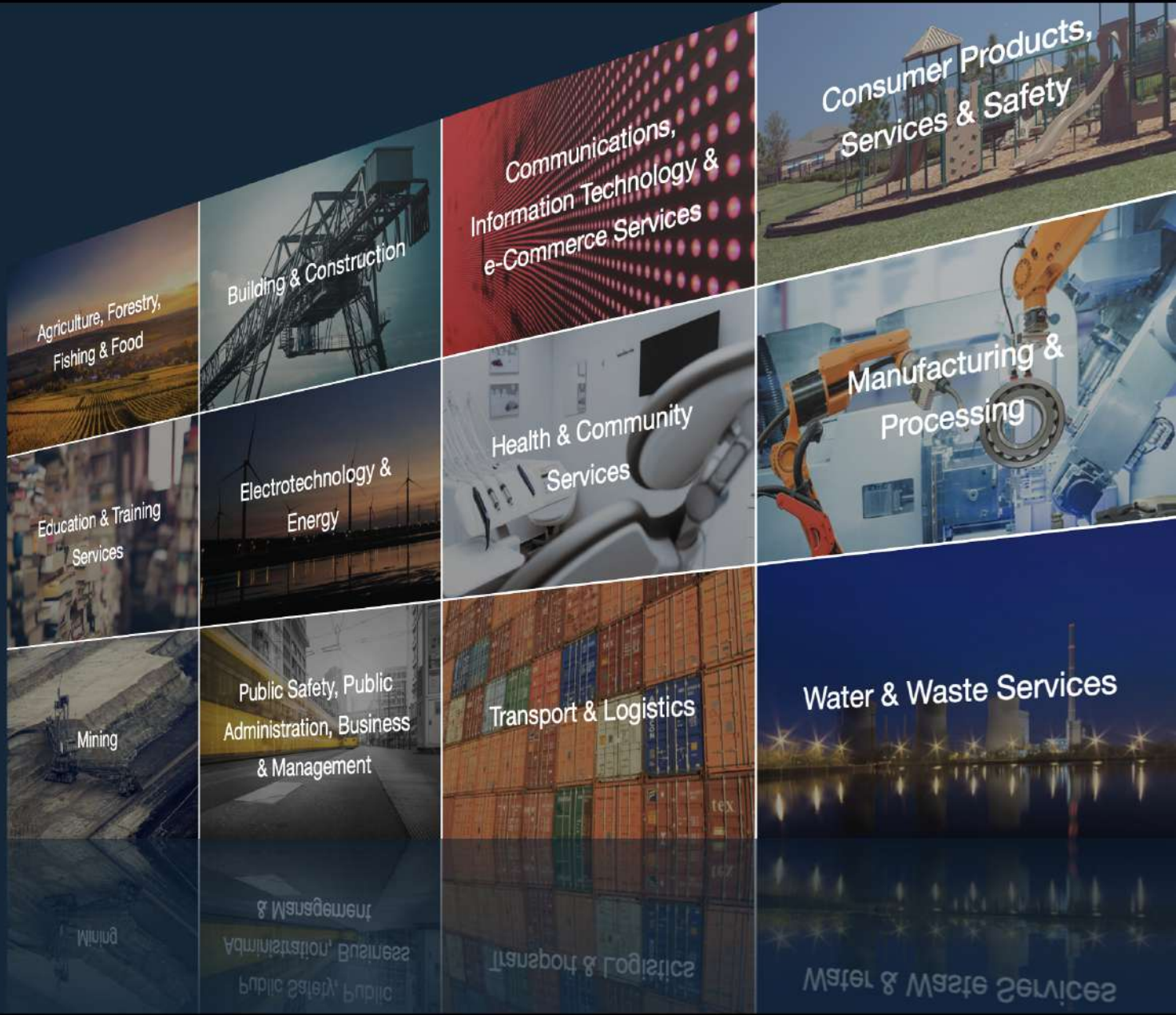
Electro-technology, including
medical devices

Organisational Ecosystem

- Member based with a board of Directors
- Nominating Organisational structure
- Technical Committees are responsible for drafting Australian Standards



We manage work *across* primary sectors of the Australian economy



Standards and conformance infrastructure

Policy,
regulation and
contracts



Standards:
specification
procedures &
guidelines



Conformity
assessment
bodies



Accreditation
bodies



Market
surveillance



Metrology



Our role

What we do

- We facilitate the development of internationally harmonised standards and other solutions that make a positive contribution to Australia



What we don't do

- We do not make laws or regulations
- Test or certify products or systems



Committee Membership

Technical Committees (TCs) are the backbone of the standardisation process. They consist of individuals nominated to represent large groups of stakeholders with a common area of interest.

Each TC has specific Terms of Reference prescribing the subject areas and related outcomes that are their responsibility.

There are many pathways to join a TC

- Representing a nominating organisation and their member views (vote)
- Stakeholder Interest Representation (vote)
- Independent co-opted expert (no vote)

Our Work

5,317

Active committee members

2,949

Nominating Organisations

390

Active Technical Committees



How to get involved?

Why get involved

STANDARD



Contribute to public benefit

Network with industry experts

Sharing expertise

Contribute to and be involved in international standardisation

Industry innovation

Professional development

Committee Membership

Technical Committees (TCs) are the backbone of the standardisation process. They consist of individuals nominated to represent large groups of stakeholders with a common area of interest.

Each TC has specific Terms of Reference prescribing the subject areas and related outcomes that are their responsibility.

There are many pathways to join a TC

- Representing a nominating organisation and their member views (vote)
- Stakeholder Interest Representation (vote)
- Independent co-opted expert (no vote)

Mirroring an International Committee

- Australian national committees can propose to become a member of an international committee (ISO or IEC)
- This can either be as an Observer or Participating Member
- International Participation Case must be submitted
- Delegates are endorsed because they are considered to be one of the experts best able to represent Australian interests in the deliberations of an ISO or IEC Committee, primarily because of their expertise in the field of activity

Level up your CV with Standards Australia's NEXTgen program.



The NEXTgen program is a 10-month professional development opportunity aimed at 'up and coming' professionals with 5 - 7 years' experience in their chosen field.



[Apply Here](#)

Applications for 2022-23 are open from 9 May - 30 June 2022.

ABOUT THE PROGRAM

What is NEXTgen?



Standards Australia's NEXTgen program offers emerging industry and technical leaders the opportunity to become involved in national and international standardisation processes.

Participants will gain a detailed understanding into the world of standards - how they're made, what impact they have, and most importantly, how to become involved in their development.

The goal of the NEXTgen program is to invest in the next generation of standards leaders and experts and support the future of standards development.



- Attracting the next generation to standards
- Balancing diversity
- Making the experience a good one



Learning Programs:

- Induction program for new committee members
- How to write an Australian Standard
- Understanding standards writing and conformity assessment
- How to write an Australian Standard for the National Construction Code

New releases regularly....

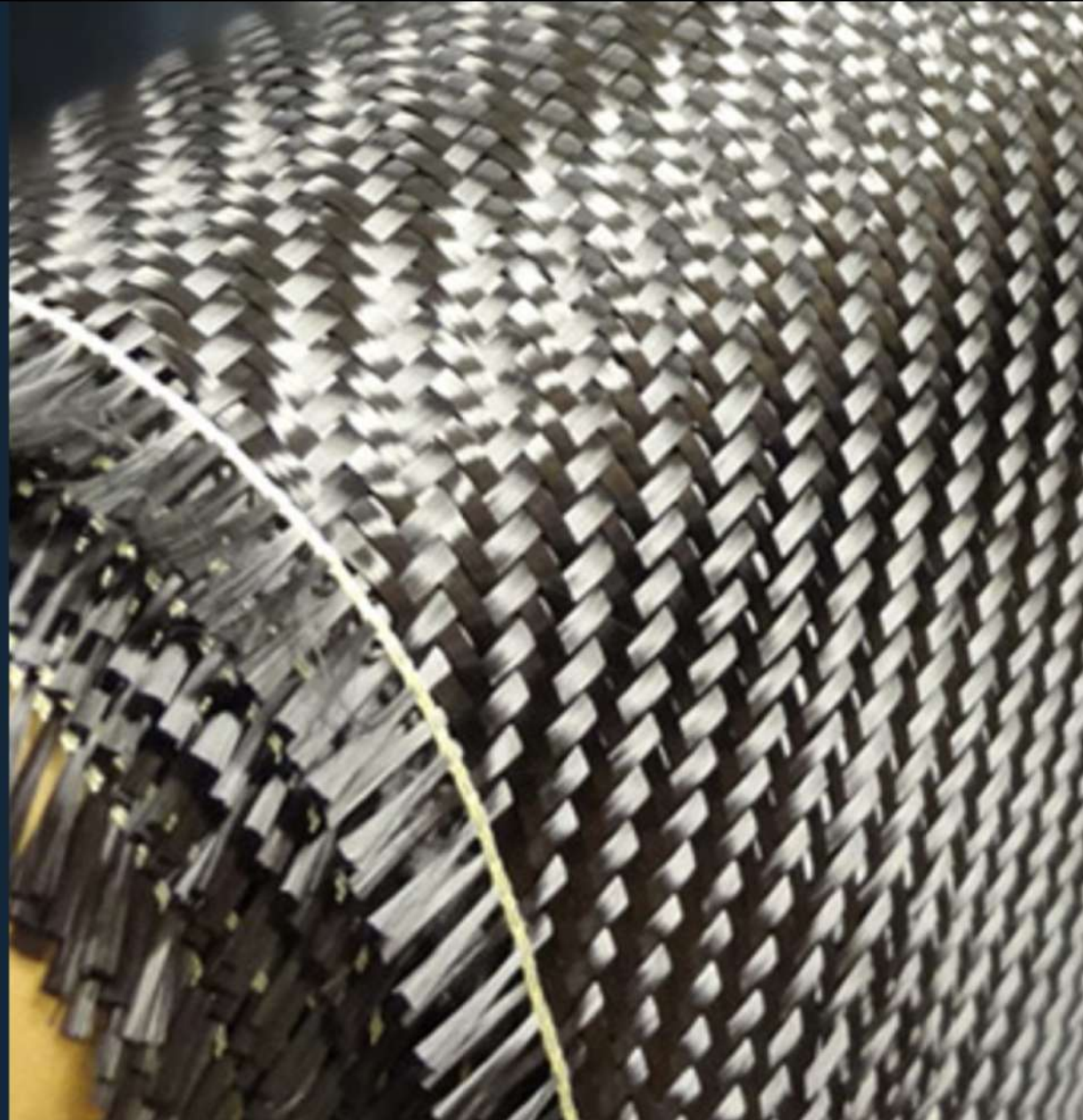
Standardisation of Advanced Fibre Materials

Composite Materials

Carbon Fibres

High Strength Composites

Integrity Testing



SC 13

Program of work

- ISO/CD 1172 Textile-glass-reinforced plastics — Prepregs, moulding compounds and laminates — Determination of the textile-glass and mineral-filler content — Calcination methods
- ISO/DIS 2113 Reinforcement fibres — Woven fabrics — Requirements and specifications
- ISO/DIS 3616 Textile glass — Chopped-strand and continuous-filament mats — Determination of average thickness, thickness under load and recovery after compression
- ISO/DIS 4410 Experimental characterization of in-plane permeability of fibrous reinforcements for liquid composite moulding
- ISO/CD 8057 Determination of galvanic corrosion rate for assembled forms of carbon fibre reinforced plastics (CFRPs) and protection-coated metal — Electrochemical tests in neutral sodium chloride solution
- ISO/CD 8060 Composites and reinforcements fibres — Carbon fibre reinforced plastics (CFRPs) and metal assemblies — Characterization of durability of adhesive interfaces by wedge rupture test
- ISO/CD 8065 Composites and reinforcements fibres — Mechanoluminescent visualization method of crack propagation for joint evaluation
- ISO/AWI 8203-2 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 2: Ultrasonic — Phased array and air coupled
- ISO/AWI 8203-3 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 3: Thermographic techniques
- ISO/AWI 8203-4 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 4: Laser shearograph
- ISO/AWI 8203-5 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 5: Microwave

Standards relating to advanced fibres

- As part of approach to market new materials, test methods and processes can become a Standard.
 - Proposal developed and submitted
 - Proposal can be for a new Standard and adoption of relevant ISO standards
 - Work undertaken by technical committee
 - Other fast track solutions are available; Technical Specification, Handbook and are lower consensus and speed to market

ISO TC 61 Plastics

SCOPE

Standardization of nomenclature, methods of test, and specifications applicable to materials and products in the field of plastics including processing (of products) by assembly in particular, but not limited to, polymeric adhesives, sealing, joining, welding.

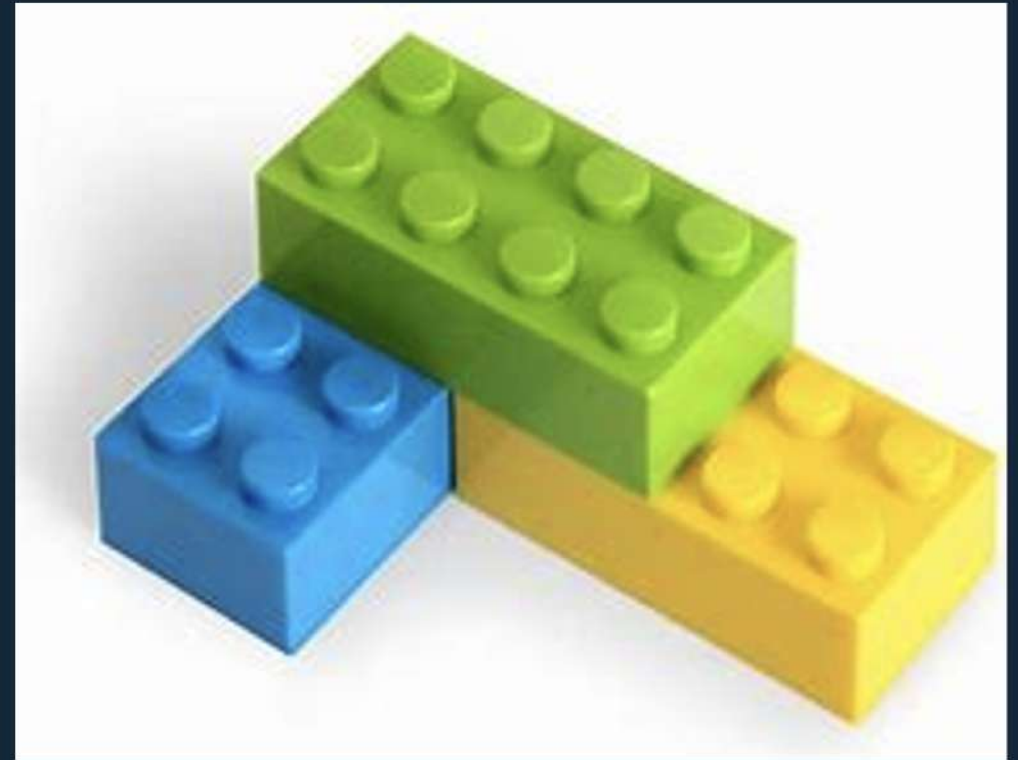
ISO TC 61/ SC 2 Mechanical behavior

ISO TC 61/ SC 9 Thermoplastic materials

ISO TC 61/ SC 10 Cellular plastics

ISO TC 61/ SC 12 Thermosetting materials

ISO TC 61/ SC 13 Composites and reinforcement fibres



TC 61 and SC 13 Portfolio

TC 61

- published 709 standards
- 103 in development

SC 13

- Published 103 standards
- 20 in development

Australia is not participating or observing



SC 13

Program of work

- ISO/CD 1172 Textile-glass-reinforced plastics — Prepregs, moulding compounds and laminates — Determination of the textile-glass and mineral-filler content — Calcination methods
- ISO/DIS 2113 Reinforcement fibres — Woven fabrics — Requirements and specifications
- ISO/DIS 3616 Textile glass — Chopped-strand and continuous-filament mats — Determination of average thickness, thickness under load and recovery after compression
- ISO/DIS 4410 Experimental characterization of in-plane permeability of fibrous reinforcements for liquid composite moulding
- ISO/CD 8057 Determination of galvanic corrosion rate for assembled forms of carbon fibre reinforced plastics (CFRPs) and protection-coated metal — Electrochemical tests in neutral sodium chloride solution
- ISO/CD 8060 Composites and reinforcements fibres — Carbon fibre reinforced plastics (CFRPs) and metal assemblies — Characterization of durability of adhesive interfaces by wedge rupture test
- ISO/CD 8065 Composites and reinforcements fibres — Mechanoluminescent visualization method of crack propagation for joint evaluation
- ISO/AWI 8203-2 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 2: Ultrasonic — Phased array and air coupled
- ISO/AWI 8203-3 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 3: Thermographic techniques
- ISO/AWI 8203-4 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 4: Laser shearograph
- ISO/AWI 8203-5 Fibre-reinforced plastics — Non-destructive inspection techniques — Part 5: Microwave

SC 13

Program of work

- ISO/AWI 8605 Fibre-reinforced plastics — Sheet moulding compound (SMC) — Basis for a specification
- ISO/DIS 14126 Fibre-reinforced plastic composites — Determination of compressive properties in the in-plane direction
- ISO/CD 14127 Carbon-fibre-reinforced composites — Determination of the resin, fibre and void contents
- ISO/DIS 15024 Fibre-reinforced plastic composites — Determination of mode I interlaminar fracture toughness, GIC, for unidirectionally reinforced materials
- ISO/DIS 20975-1 Fibre-reinforced plastic composites — Determination of laminate of through-thickness properties — Part 1: Direct tension and compression tests
- ISO 22841:2021/PRF AMD 1 Composites and reinforcements fibres — Carbon fibre reinforced plastics(CFRPs) and metal assemblies — Determination of the tensile lap-shear strength — Amendment 1: Precision data
- ISO/TS 23483 Carbon fibres — Determination of polyacrylonitrile-based (PAN-based) carbon fibre tow characteristics — Heat transfer parameter
- ISO/DIS 23927 Laminates and moulding compounds — Prepregs — Determination of tack
- ISO/DIS 23930 Fibre-reinforced plastic composites — Full section compression test for pultruded profiles

ISO/TC 58/SC 3 Cylinder design (P member)

SCOPE

Standardization of gas cylinders and other pressure receptacles, their fittings and requirements relating to their manufacture and use.

Program of Works

- ISO/DTR 4673 Service life performance of composite cylinders and tubes
- ISO 11119-2:2020/CD AMD 1 Gas cylinders — Design, construction and testing of refillable composite gas cylinders and tubes — Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners — Amendment 1
- ISO 11119-3:2020/CD AMD 1 Gas cylinders — Design, construction and testing of refillable composite gas cylinders and tubes — Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with non-load-sharing metallic or non-metallic liners or without liners — Amendment 1
- ISO 11515 Gas cylinders — Refillable composite reinforced tubes of water capacity between 450 l and 3000 l — Design, construction and testing

Aerospace

- ISO/TC 20 Aircraft and Space Vehicles
- ISO/TC 20/SC 4 Aerospace Fastener Systems
- ISO/TC 20/SC 9 Air Cargo and Ground Equipment
- ISO/TC 20/SC 16 Unmanned Aircraft Systems
 - ISO/AWI TS 4584.2
Improvement in the guideline for UA testing/design of accelerated lifecycle testing (ALT) for UAS/Sub-system/components
- ISO/TC 20/SC 18 Materials



ISO/TC 22/SC 37 Electrically propelled vehicles

- Specific aspects of electrically propelled road vehicles, electric propulsion systems, related components and their vehicle integration.
- ISO/TC 22/SC 37/WG 3 - Rechargeable energy storage
- ISO/TC 22/SC 37/WG 4 - Systems and components connected to electric propulsion systems



Energy

- ISO/TC 180 Solar Energy
 - ISO/TR 10217:1989 Solar energy — Water heating systems — Guide to material selection with regard to - internal corrosion
 - ISO 22975-1:2016 Solar energy — Collector components and materials — Part 1: Evacuated tubes — Durability and performance
 - ISO 22975-2:2016 Solar energy — Collector components and materials — Part 2: Heat-pipes for solar thermal application — Durability and performance
 - ISO 22975-3:2014 Solar energy — Collector components and materials — Part 3: Absorber surface durability
- ISO/TC 192 Gas Turbines
 - ISO 3977-3:2004 Gas turbines — Procurement — Part 3: Design requirements
- ISOC/TC 60 Gears (wind turbines)
 - IEC 61400-4:2012 Wind turbines — Part 4: Design requirements for wind turbine gearboxes

Transport

- ISO/TC 8 Ships and marine technology
 - ISO 29400:2020 Ships and marine technology Offshore wind energy Port and marine operations
- ISO/TC 22/SC 37 Electrically propelled vehicles
- ISO/TC 22/SC 37/WG 3 - Rechargeable energy storage
- ISO/TC 22/SC 37/WG 4 - Systems and components connected to Electric propulsion systems

- ISO/TC 188 Small Craft
 - ISO 4566:1992 Small craft with inboard engine — Propeller shaft ends and bosses with 1:10 taper
 - ISO 8845:1994 Small craft with inboard engine — Propeller shaft ends and bosses with 1:16 taper
 - ISO 8845:1994/COR 1:1995 Small craft with inboard engine — Propeller shaft ends and bosses with 1:16 taper — Technical Corrigendum 1
 - ISO 12215-1:2000 Small craft — Hull construction and scantlings — Part 1: Materials: Thermosetting resins, glass-fibre reinforcement, reference laminate

Advanced Manufacturing

- ISO/TC 58/SC 3 Cylinder design (carbon fibres to make cylinders) Standardization of gas cylinders and other pressure receptacles, their fittings and requirements relating to their manufacture and use.
- ISO/TC 219 Floor Coverings - Standardization in the field of textile, resilient and laminate floor coverings
- ISO/TC 114/SC 1 Horology (shock resistant watches)

Construction

- ISO/TC 77 Products in Fibre Reinforced Cement
 - ISO 390:1993 Products in fibre-reinforced cement — Sampling and inspection
 - ISO 8336:2017 Fibre-cement flat sheets — Product specification and test methods
 - ISO 9125:2009 Fibre-cement slates and fittings — Product specification and test methods
 - ISO 10904:2011 Fibre-cement corrugated sheets and fittings for roofing and cladding



Assisted Mobility

- ISO/TC 168 Prosthetics and orthotics
 - ISO 10328:2016 Prosthetics — Structural testing of lower-limb prostheses — Requirements and test methods
 - ISO 13404:2007 Prosthetics and orthotics — Categorization and description of external orthoses and orthotic components
 - ISO 13405-1:2015 Prosthetics and orthotics — Classification and description of prosthetic components — Part 1: Classification of prosthetic components
 - ISO 13405-2:2015 Prosthetics and orthotics — Classification and description of prosthetic components — Part 2:
- ISO/TC 173 Assistive Products
 - ISO 10535:2021 Assistive products — Hoists for the transfer of persons — Requirements and test methods
 - ISO 11199-1:2021 Assistive products for walking manipulated by both arms — Requirements and test methods — Part 1: Walking frames
 - ISO 11199-2:2021 Assistive products for walking manipulated by both arms — Requirements and test methods — Part 2: Rollators

High Performance Sport

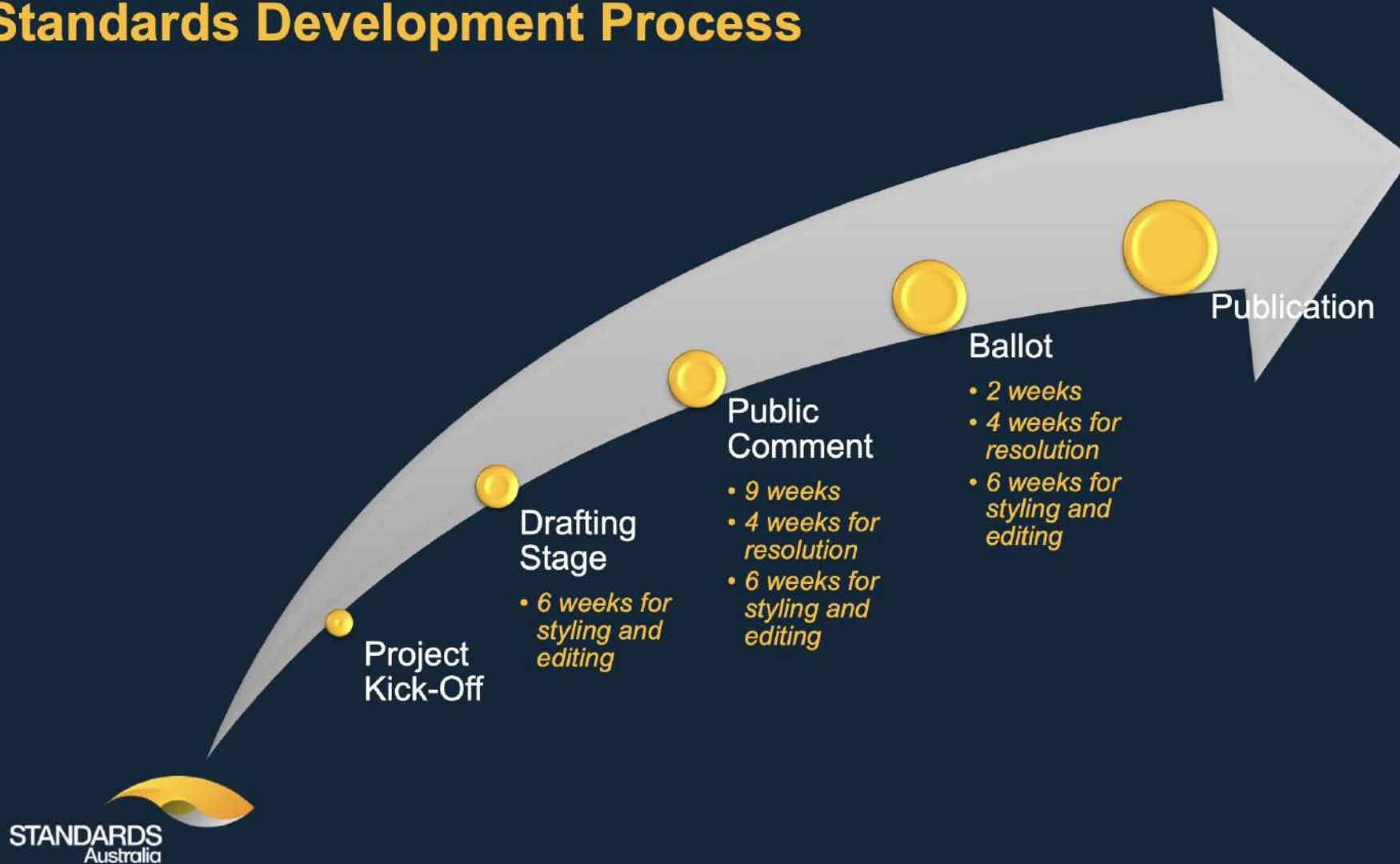
- ISO/TC 83 Sports and other recreational facilities and equipment
 - ISO 20957-1:2013 Stationary training equipment — Part 1: General safety requirements and test methods
 - ISO/CD 20957-1 Stationary training equipment — Part 1: General safety requirements and test methods
 - ISO 20957-2:2020 Stationary training equipment — Part 2: Strength training equipment, additional specific safety requirements and test methods
 - ISO/DIS 20957-2 Stationary training equipment — Part 2: Strength training equipment — Additional specific safety requirements and test methods
 - ISO 20957-4:2016 Stationary training equipment — Part 4: Strength training benches, additional specific safety requirements and test methods
 - ISO 20957-5:2016 Stationary training equipment — Part 5: Stationary exercise bicycles and upper body crank training equipment, additional specific safety requirements and test methods
 - ISO 20957-6:2021 Stationary training equipment — Part 6: Treadmills, additional specific safety requirements and test methods

ISO/TC 22/SC 37 Electrically propelled vehicles

- Specific aspects of electrically propelled road vehicles, electric propulsion systems, related components and their vehicle integration.
- ISO/TC 22/SC 37/WG 3 - Rechargeable energy storage
- ISO/TC 22/SC 37/WG 4 - Systems and components connected to electric propulsion systems



Standards Development Process



ISO TC 45 Rubber and Rubber products

SCOPE

Standardisation of rubber and plastic hoses and hose assemblies associated with industrial, chemical, automotive and hydraulic applications including hose test methods.

SUBCOMMITTEE ↓	SUBCOMMITTEE TITLE	PUBLISHED STANDARDS	STANDARDS UNDER DEVELOPMENT
ISO/TC 45/SC 1	Rubber and plastics hoses and hose assemblies	78	9
ISO/TC 45/SC 2	Testing and analysis	125	14
ISO/TC 45/SC 3	Raw materials (including latex) for use in the rubber industry	125	14
ISO/TC 45/SC 4	Products (other than hoses)	105	16

Proposal process



Clear Project Scope



Net Benefit Case



Stakeholder Support



*Proposal
opens*

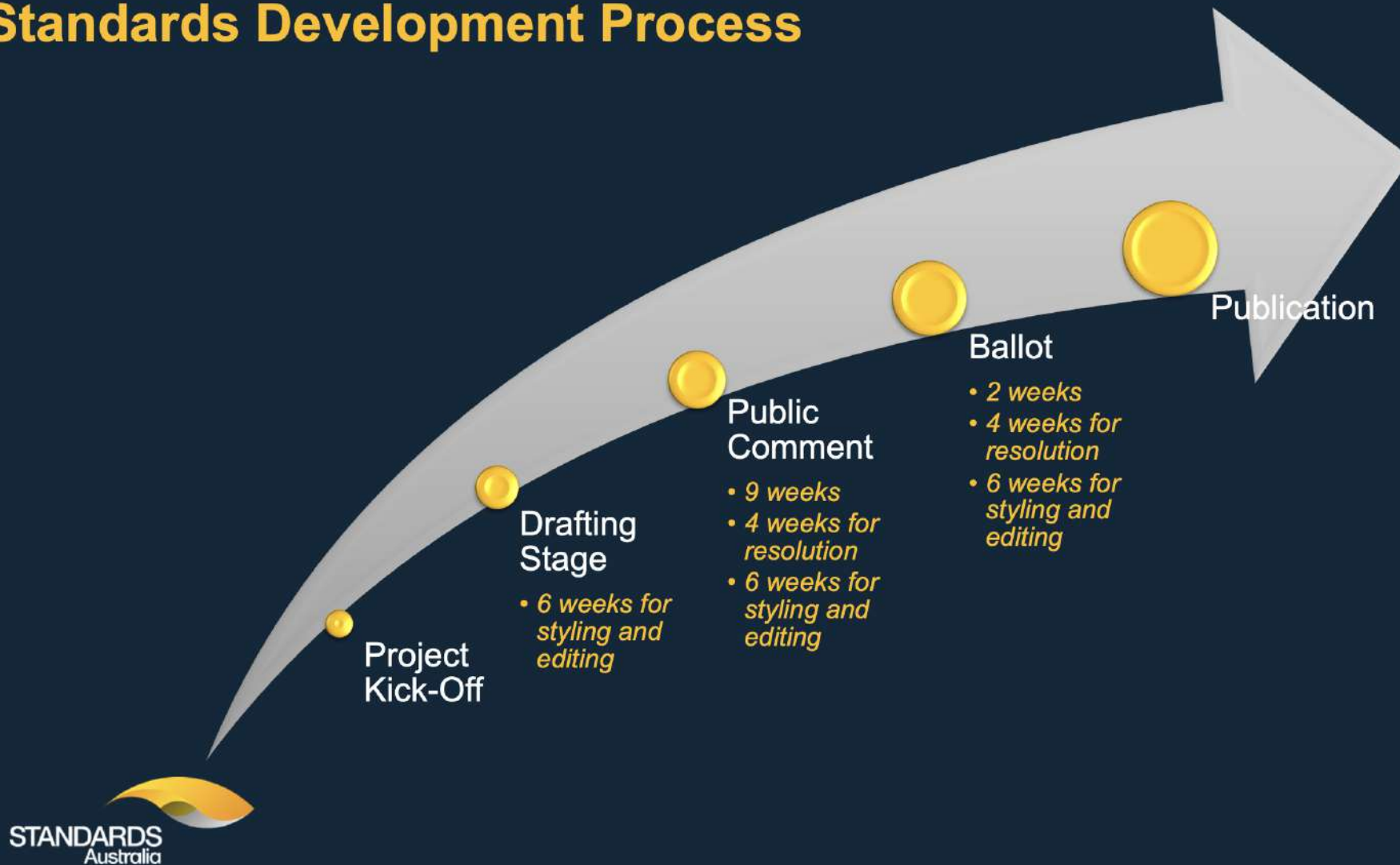
*Proposal
closes*

*Proposal
reviewed by
Standards
Australia*

*If approved, the
committee
undertakes
completion of
project in line with
the scope*

*Project
completion in
line with
Standards
Development
Guidelines*

Standards Development Process





CELEBRATING 100 YEARS 1922-2022