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**FORUM 2022**

Starting on 15 March  
Final week 30 May - 3 June

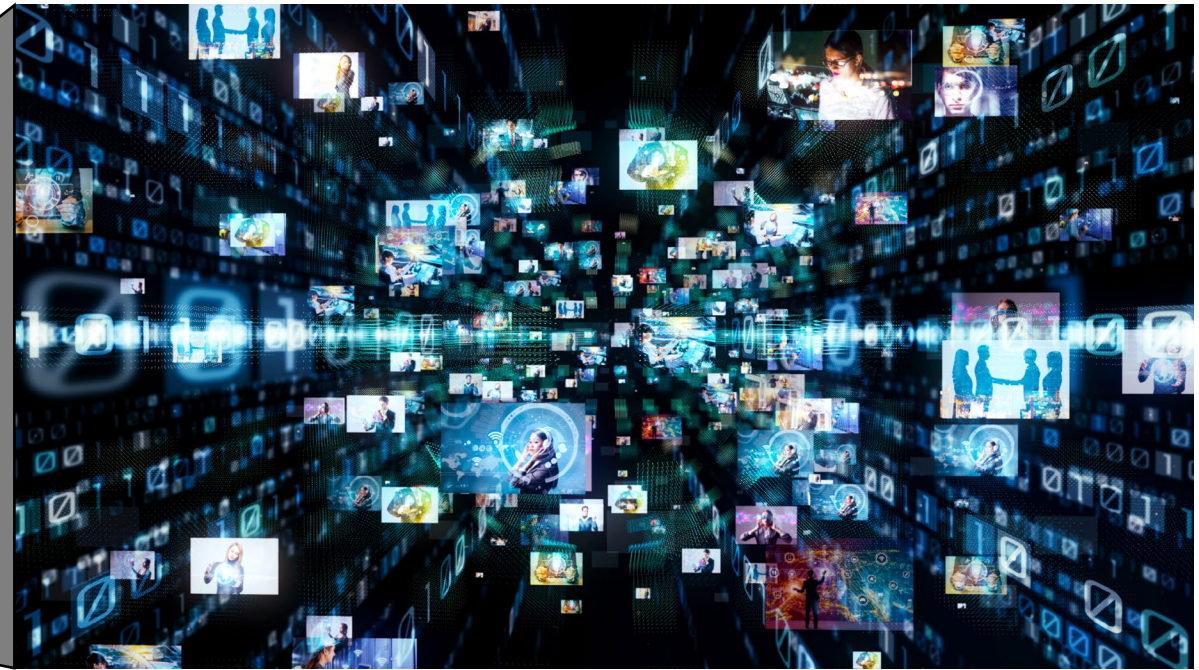
# Optical fibre cable technologies for fully connected world

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Cabled optical fibre is an innovation that has transformed the way we connect!



# Progress of relevant standards in ITU-T Q5/SG15

- Fibre developments
  - G.652/G.657 revisions
  - G.654 revision
- Cable developments
  - L.100 revision
  - L.110 new

# ITU-T Recommendations (Revisions)

G.652 - Single-mode optical fibre and cable

G.657 - Bending-loss insensitive single-mode optical fibre and cable



- Max/Min CD value from 1260 – 1625 nm

- Access networks as well as general transport networks



## ITU-T Recommendation (Revision)

### G.654 - Cut-off shifted single-mode optical fibre and cable

- Main modification was to the attenuation coefficient of G.654.E to specify a wavelength dependency for estimating optical system design.
- Current discussions are underway on also adding reduced coating OD options some G.654 fibre types

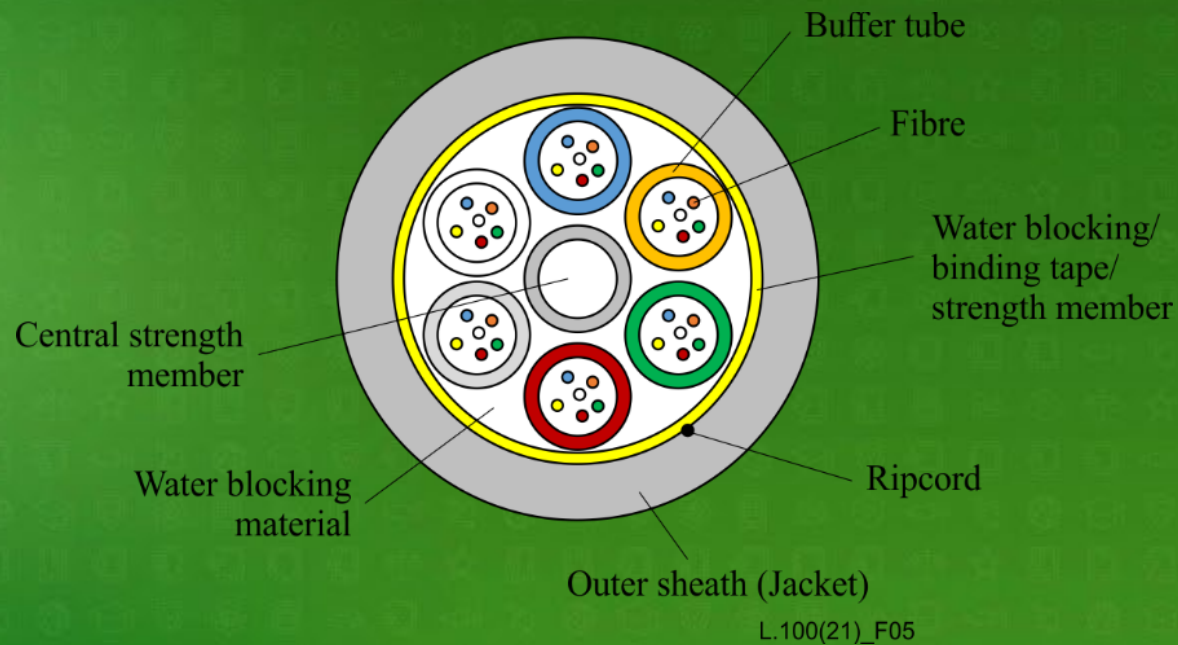




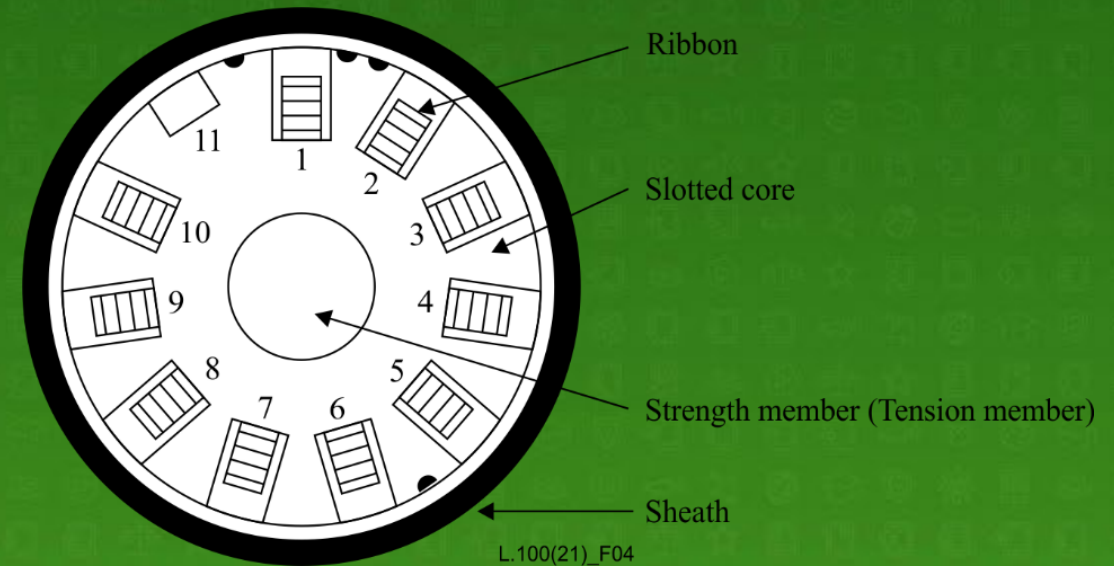
# Progress of relevant standards in ITU-T Q5/SG15

- Fibre developments
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- Cable developments
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  - L.110 new

# ITU-T Recommendation L.100 – Optical fibre cables for duct and tunnel application (Revision)



Example of a loose tube cable construction



Example of a slotted core structure cable

# ITU-T Recommendation L.100 – Optical fibre cables for duct and tunnel application (Revision)

- In the fourth version of Recommendation:
  - Clarification to the scope to be the single mode optical fibre and the optical fibre cable which is installed by the pulling methods.
  - Test methods were moved from main body to Annex A, and the performance criteria for the duct and tunnel applications are mentioned in detail by referring the IEC documents.
  - Descriptions related with the mechanical characteristics and the environmental conditions were expanded.

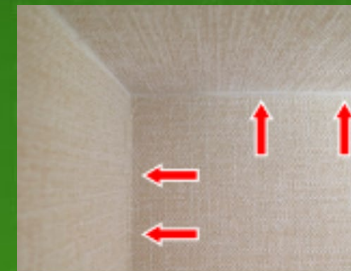


# ITU-T Recommendation L.110 – Optical fibre cables for in-home application (New)

- refers to optical fibre cables with minimum visibility to be used for telecommunications access networks in the household living spaces of end users;
- covers mechanical and environmental characteristics of optical fibre cable for in-home applications;
- focuses on characteristics of the optical fibre cables that are related to in-home environment harmonization.



Installation of the in-home cable (indicated by orange line)



a) In-home cable

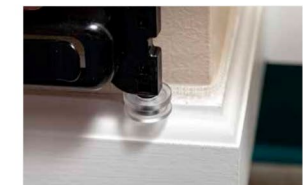


b) Indoor cable

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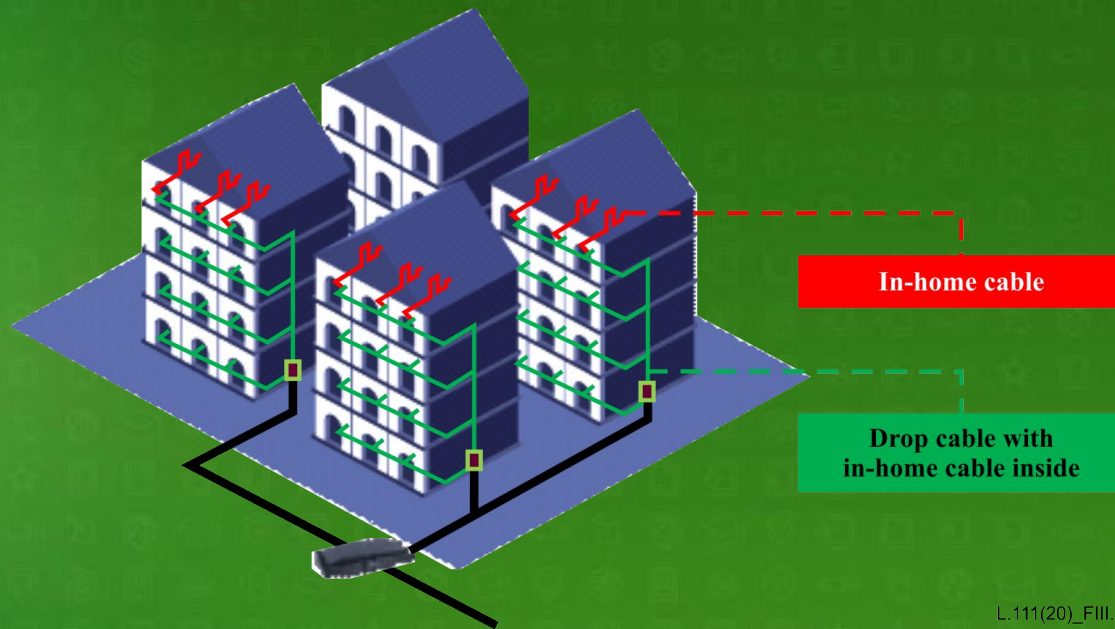
a) For method A - Installed 900 µm tight buffered fibre with adhesive



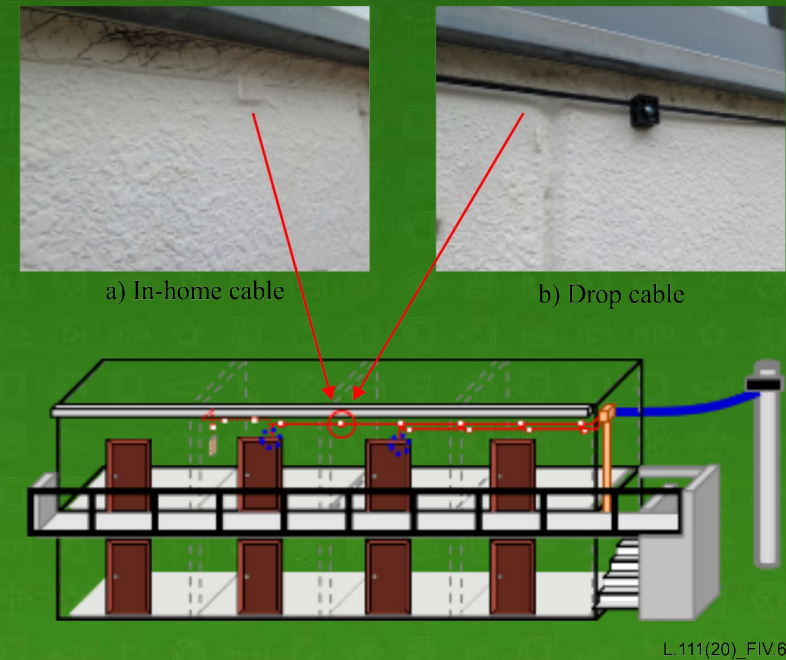
b) For method B - Installed 900 µm tight buffered fibre using track

L.111(20)\_FVI.5

# ITU-T Recommendation L.110 – Optical fibre cables for in-home application (New)



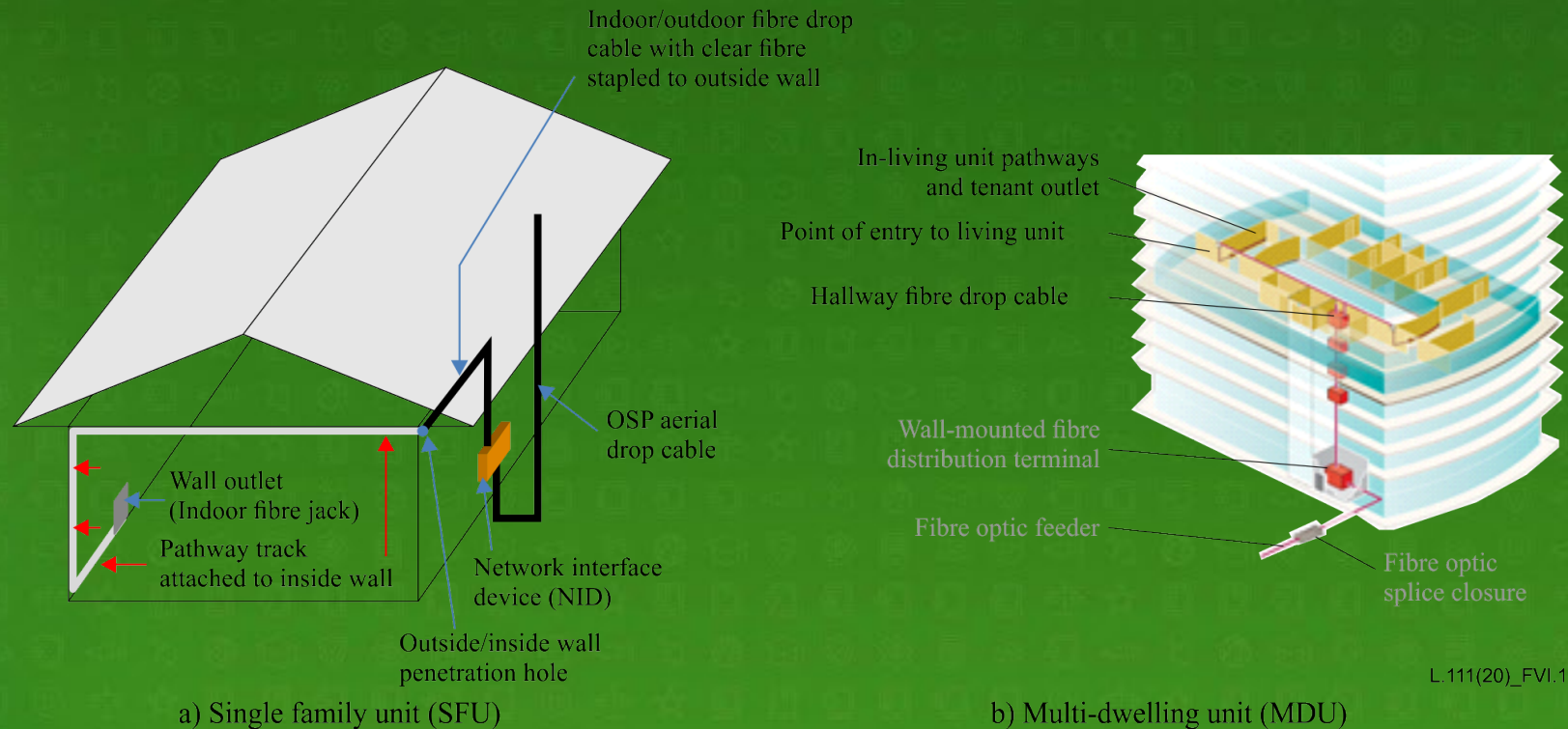
FTTH solution for drop cable with in-home cable inside



Examples of installation outside under the eaves;  
(a) in-home cable and (b) drop cable



# ITU-T Recommendation L.110 – Optical fibre cables for in-home application (New)



Single Family Unit (SFU) and Multi-Dwelling Unit (MDU) application spaces



# Conclusion

- Fiber developments continue to pave the way for future network capacity needs and evolving deployment considerations
- There exists renewed interest in updating the associated cabled requirements to provide globally harmonized requirements and test procedures
- New applications are continually being established for cabled optical fibre solutions bringing us closer to a fully connected world



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**Thank you for your kind attention!**