Revision of Chromatic Dispersion Specification for G.652.D Fibres Explained January 2020

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Chromatic dispersion specification for G.652.D fibres has been changed into boundary line specification.

• Historical

	Chromatic dispersion parameter	λ_{0min}	1300	nm		
		λ_{0max} 1324 n S _{0max} 0.092 ps/(nn		nm		
				m² × km)	1	
Current						
	Chromatic dispersion parameter	λ_{0min}			1300	nm
		λ_{0max}			1324	nm
		S _{0min}			0.073	ps/(nm ² × km)
	(1260 nm to 1460 nm)	S _{0max}			0.092	ps/(nm ² × km)
	Linear fitting (1460 nm to 1625 nm)	Minimum at 1550 nm			13.3	ps/(nm × km)
		Maximum at 1550 nm			18.6	ps/(nm × km)
		Minimum at 1625 nm			17.2	ps/(nm × km)
		Maximum at 1625 nm			23.7	ps/(nm × km)



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From 1460 nm to 1625 nm, chromatic dispersion coefficient $D(\lambda)$ at wavelength λ is bound by the following inequality:

 $8.625 + 0.052(\lambda - 1460) \le D(\lambda)$ $\le 12.472 + 0.068(\lambda - 1460)$



A survey on G.652.D products was conducted to determine the chromatic dispersion parameter specifications which resulted in terms of the dispersion envelope



The results shown here are summarized in Appendix II of ITU-T Recommendation G.652

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Summary

- Q5 experts set out with a goal to better align the chromatic dispersion specification with market needs.
- There was a expansive and carful undertaking to collect and model current statistical manufacturing distributions which resulted in the agreed upon specification
- In the end the upper boundary and zero dispersion wavelength ranges remained consistent
- Appendix I a new clause I.6 "An example of statistical methodology" was added to help provide guidance for statistical system design of chromatic dispersion





