

URC2

Fibre optic cable for unrepeated submarine systems

- Up to 24 fibres
- Maximum deployment depth: 7000m
- Highly reliable over 25 years
- Highly resistant to cable breaks
- Hermetic barrier against hydrogen
- Electroding capabilities
- Complete range of armouring
- UQJ* qualified

Alcatel has developed a complete range of fibre optic submarine cables, one of them being the URC2 cable family. The URC2 cable has been designed specially for unrepeated systems, benefiting from our past extensive experience in the conception and development of submarine fibre optic cables.

The cable design is based on a welded steel tube, housing up to 24 fibres in a stress-free environment to ensure a long lifetime.

The fibres have a defined excess length relative to the tube which is filled with a water-blocking compound. The steel tube offers mechanical and hydrostatic protection and acts as an hermetic barrier against hydrogen for the optical fibres.

A steel vault protects the steel tube to complete the cable core. This vault provides a high level of protection and a very good mechanical behaviour during sea-going operations, allowing the URC2 cable to be laid in very deep water, to depths of 7000 metres.

For electroding purposes (fault location by means of sea electrodes), the cable design can also be offered with a copper conductor fitted over the steel tube.

The necessary mechanical properties of the URC2 cable family are adapted for each application. Different structures external to the steel tube, such as the number and diameter of armour wires, differ according to different water depths, seabed topology and the degree of protection needed.

Two layers of polypropylene yarn outer servings, flooded in bitumen, are applied over the armouring to provide corrosion protection.

The URC2 cable family and associated joints are designed to perform reliably for at least 25 years. The URC2 cables are also qualified for use with the Universal Quick Joint (UQJ).

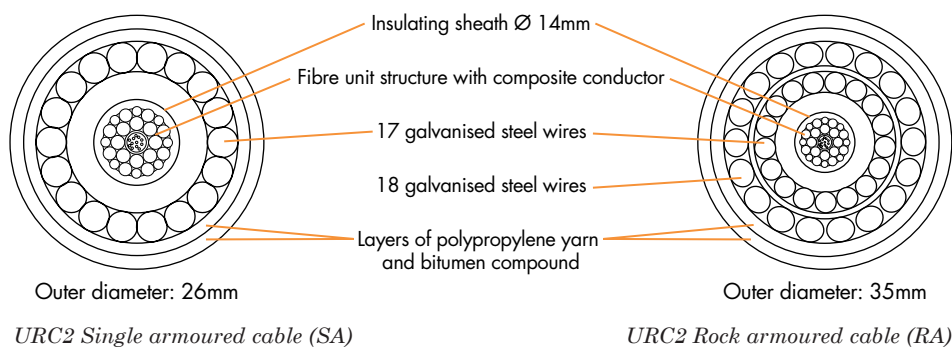
The cable design ensures that no strain is exerted on the fibres during normal operation. In the case of a cable break, high strains and seawater ingress are limited to a short length, so the majority of the cable remains serviceable.



Typical cable types from the URC2 family

*Universal Quick Joint

Cable performance



		LW	LWP	SA	DA	RA
Performance	Unit	Values	Values	Values	Values	Values
NTTS*	kN	42	42	156	196	156
NOTS*	kN	24	24	117	147	117
NPTS*	kN	12	12	58	50	58
UTS*	kN	60	60	186	264	215

Characteristics

		LW	LWP	SA	DA	RA
Outer diameter	mm	14	19.6	26	35	35
Weight in air	kg/m	0.44	0.62	1.6	3.5	3.3
Weight in water	kg/m	0.28	0.31	1.0	2.4	2.2

*NTTS: nominal transient tensile strength

*NOTS: nominal operating tensile strength

*NPTS: nominal permanent tensile strength

*UTS: ultimate tensile strength

URC2 global submarine cable references

System	Length (km)
CC5 (France mainland-Corsica)	310
Bass Strait	255
Cyprus Domestic (Kinyras)	149
Greece Domestic	395
ECFS (Eastern Caribbean Fibre System)	810
Adria 1	460
CJFS (Cayman-Jamaica Fibre System)	868
Sesimbra-Lagos	320
Northstar	160
LFON (Libya Fibre Optic Network)	1,640
Transcan 3	203

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