

CZS / LONGITUDINAL WATER BLOCKING

Water-Blocking Yarn

Polyester yarn with super-absorbent resin

Polyester long-fibre yarn coated with polyacrylate super-absorbent resin for placement along internal water paths.



500-10,000 m/kg
NOMINAL YARN YIELD

20-400 N
MIN. TENSILE RANGE

20-50 ml/g
MIN. ABSORPTION / 1 MIN

Eight CZS grades
GRADE RANGE

DRY WATER BLOCKING FOR CABLE CONSTRUCTIONS

Water blocking within the cable interstices.

When water enters a damaged cable, the super-absorbent coating swells to form a gel that helps close internal gaps and restrict longitudinal migration. Yarn targets the spaces between strands or cable components and can complement a surrounding water-blocking tape.

Typical applications in cable production

Stranded power cable conductors

Placed between conductor strands or selected interstices to interrupt longitudinal water paths.

Optical fibre cable cores

Laid alongside tubes, fillers or other core components where a dry water-blocking element is specified.

Cable binding and gap filling

Suitable for binder or longitudinal filler duties when the selected grade meets the mechanical requirement.

Combined tape and yarn systems

Yarn addresses internal gaps while tape wraps the broader core surface. Validate placement and swelling together.

Material advantages

Targets internal gaps

Places swelling material along narrow water paths.

Dry cable assembly

Alternative to wet filling in suitable constructions.

Mechanical grade choice

Minimum tensile strength ranges from 20 to 400 N.

Finer or heavier yarn

Select yield and denier to balance build and duty.

Complements tapes

Useful within spaces a surface wrap cannot fill alone.

Flexible package options

Core and winding format can suit the payout system.

CHOOSING YARN OR TAPE

Choose yarn for interstices, longitudinal filler paths or binding duties. Choose tape for broader surface coverage and bedding. Higher m/kg means a finer, lower-mass yarn; balance tensile strength, absorption and the number of ends in the construction.

Material properties do not guarantee finished-cable water-blocking performance. Product images are representative.

Technical data

CZS / Water-Blocking Yarn

PROPERTY	UNIT	CZS-0.5	CZS-1.0	CZS-2.0	CZS-3.0
Length per unit mass / yield	m/kg	500 ±50	1,000 ±100	2,000 ±200	3,000 ±300
Nominal denier	D	18000	9000	4500	3000
Min. tensile strength	N	≥400	≥200	≥150	≥110
Min. elongation	%	≥15	≥15	≥15	≥15
Min. absorption after 1 min	ml/g	≥50	≥50	≥45	≥45
Min. absorption after 5 min	ml/g	≥60	≥60	≥55	≥55

PROPERTY	UNIT	CZS-4.0	CZS-5.0	CZS-6.0	CZS-10
Length per unit mass / yield	m/kg	4,000 ±400	5,000 ±500	6,000 ±600	10,000 ±1,000
Nominal denier	D	2250	1800	1500	900
Min. tensile strength	N	≥80	≥60	≥50	≥20
Min. elongation	%	≥15	≥15	≥15	≥15
Min. absorption after 1 min	ml/g	≥40	≥35	≥30	≥20
Min. absorption after 5 min	ml/g	≥50	≥45	≥40	≥30

Thermal and moisture properties / all CZS grades

PROPERTY	VALUE
Short-term thermal stability	230 °C
Long-term thermal stability	90 °C
Maximum moisture content	≤6%

Yarn package options

PACKAGE	TUBE LENGTH	TRAVERSE	OUTSIDE DIAMETER	NET WEIGHT
Tube A	220 mm	200 mm	200-280 mm	3-5 kg
Tube B	175 mm	150 mm	200-280 mm	2.5-3.5 kg

Core IDs: 52, 76, 92, 94, 125 and 127 mm. Specify grade, core, package size, payout direction and required quantity. Alternative winding arrangements can be discussed to suit the production line.

Thermal values describe material stability, not a cable rating. Validate the complete cable for pressure, water chemistry and temperature; salt-water duties need specific qualification. Store sealed, clean and dry.