

SOME STRUCTURES DESERVE MORE THAN ORDINARY CONCRETE

Give them the additional strength of Recron® 3s secondary reinforcement.



Recron® 3s
Making a Stronger World

ABOUT RELIANCE

Reliance Industries Limited (RIL), founded by Shri Dhirubhai H. Ambani, is India's largest private sector company headquartered in Mumbai. RIL's businesses span hydrocarbon exploration and production, petroleum refining and marketing, petrochemicals, advanced materials and composites, renewables (solar and hydrogen), retail and digital services. RIL is the first Indian private sector company to feature in Fortune's Global 500 list of the 'World's Largest Companies', currently ranked at 88th in 2023. It stands 45th in the 'Forbes Global 2000 rankings for 2023 - the top-most among Indian companies. The company has been ranked among the world's 20 best companies to work with, highest amongst Indian companies in Forbes' World's Best Employers for 2022. It features among LinkedIn's "Top Companies 2023: The 25 Best Workplaces To Grow Your Career In India".

RECRON® 3s ADDS MUSCLE WHEN CONCRETE NEEDS IT THE MOST.

Concrete is widely used because of its valuable properties. It has high compressive strength and stiffness, low thermal and electrical conductivity, besides being non-combustible and non-toxic. While these advantages are enough for many purposes, ordinary concrete falls short when used in certain construction projects faced with repeated stress, temperature variations and corrosion, it tends to become brittle, lacking tension and developing cracks. That's when Recron® 3s adds toughness and tensile strength to concrete, while helping resist shrinkage and cracking. It also bonds better with the mix, thanks to a unique triangular cross-section and dimensional stability. Developed after extensive research at the Reliance Technology Centre, Recron® 3s has been widely used in a variety of applications. You can be sure that it will add value to the special structures you build.

Recron® 3s has a Unique Triangular Cross-Section which gives 40% more surface area for bonding compared to other shapes.



Recron® 3s is also designed so that the fibre stays dimensionally straight and uniformly dispersed, so as to safeguard against balling, curling and bunching.

APPLICATION AREAS

Fibre length & dosage (kg/cum)

APPLICATION		6 mm	12 mm	18 mm
	Sub Application			
RCC	Slab-Normal/PSC		0.6-0.9	0.6-0.9
	Beams/Columns		0.6-1.2	
	Deck Slab		0.9-1.5	0.9
SLAB ON GRADE	Floorings		0.9	0.9-3.0
	Parking lots		0.9	0.9-2.0
	Ramps		0.9	0.9-3.0
WATER RETAINING STRUCTURES	Concrete		0.9-2.0	
	Canal Linings			0.9-1.5
	Drains			0.9
	Tanks		0.9-1.2	
	Cooling Towers		0.9-1.2	
PAVEMENTS	PQC		0.9-3.0	0.9-3.0
	Toppings/Overlays		0.9-3.0	0.9-3.0
	Parallel Taxi Track		0.9-3.0	0.9-3.0
	Runways		0.9-3.0	0.9-3.0
	Parking Bays		0.9-3.0	0.9-3.0
SCREEDS/MORTARS	Plaster	0.6-0.9		
	Screed	0.6-0.9	0.6-0.9	
	Mortar	0.6-0.9		
SHOTCRETE & CONCRETE LINER	Crown		0.9-1.5	0.9-1.5
	Walls		0.9	0.9
	Rehabilitation		0.9-1.5	0.9-1.5
PRECAST	Partition Walls	0.6-0.9		0.9-2.0
	Slabs		0.9	
	Manhole Covers			0.9-3.0
	Pavers/Tiles	0.6-0.9	0.6-0.9	
	Thin Sections	0.6-0.9	0.6-0.9	
PRE MIX MORTARS		0.9-1.5		

How Recron® 3s works:

- Improves resistance to plastic & drying shrinkage/cracking
- Inhibits propagation of micro-cracks and provides stability to concrete
- Improves flexural toughness/increases split tensile strength
- Enhances abrasion resistance and increases energy absorption of concrete, thereby improving impact resistance
- Aids in making concrete more homogenous
- Reduces permeability in concrete
- Improves durability and enhances longevity of the structure

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FIGURES DON'T LIE: THE RECRON® 3s ADVANTAGE

SR. NO.	PROPERTIES	GAIN OVER NORMAL MIX	TESTED BY
1	Compressive Strength (28 days)	+12 to 16% (Incremental gain noticed in select grades)	• CBRI Roorkee • IIT Madras • IPRI Punjab • CRRI - New Delhi • Al Futtaim Bodycote Dubai
2	Flexural Strength	+7 to 20%	• CBRI Roorkee • Civil-Aid-B'Lore • CRRI - New Delhi • IPRI Punjab • Al Futtaim Bodycote Dubai
3	Split Tensile Strength	+7 to 22%	• CBRI Roorkee • Civil-Aid-B'Lore • SVNIT Surat • IPRI Punjab • GERI Baroda • KCT Coimbatore
4	Drying Shrinkage	-48 to -80%	• CRRI - New Delhi • IIT Madras • UBC Canada • Civil-Aid-B'Lore
5	Water Percolation	-44 to -60%	• CRRI - New Delhi • Al Futtaim Bodycote Dubai
6	Permeability, K cm/sec under stressed conditions	Reduced to nil with fibre Reinforced Concrete under 5 bar pressure	• IPRI Punjab • IIT Madras • Civil-Aid-B'Lore
7	Abrasion Resistance	+25%	• CRRI • IIT Madras
8	Impact Resistance	+40 to 140%	• IIT Roorkee • IPRI Punjab
9	Damping of Material (under dynamic loading)	26%	• SVNIT Surat
10	Energy Absorption	55%	• SVNIT Surat
11	Young's Modulus	23.70%	• SVNIT Surat
12	Fatigue Life (cycle)	+ 230%	• M.S. University, Baroda
13	ARS (Average Residual Strength) of FRC	2-15 times of Plain Concrete	• UBC Canada
14	Toughness	6-12 times of Plain Concrete	• UBC Canada

Recron®3s complies with BIS standards [IS 16481 : 2022]

RECRON® 3s FIBRES FOR BUILDINGS

Recron® 3s fibres feature an innovative cross-sectional design, offer 40% more surface area for enhanced adhesion. These fibres serve as secondary reinforcement boosting resistance to plastic and drying shrinkage cracks while also improving flexural strength. Additionally, Recron® 3s fibres create web like structure which reduces water permeation and prevents micro-crack propagation ensuring concrete stability. It further reduces seepage, guarding primary reinforcement and addresses rebound loss in plastering. These attributes collectively enhances durability of structures significantly.



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PRODUCT CAPABILITIES

- Recron® 3s complies with IS 16481 : 2022
- Recron® 3s complies with EN 14889-2 : 2006 of EU

USES / APPLICATIONS

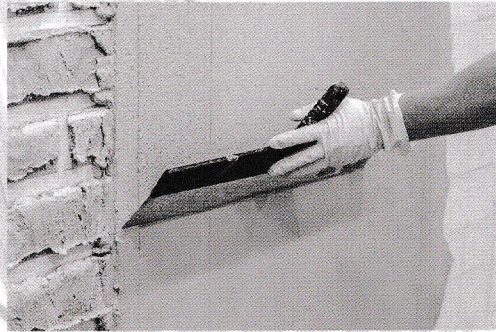
- Plastering
- Slab on Grade
- Raft
- Basements
- Foundations
- Water Retaining Structures
- Parking Slabs
- Beams & Columns
- Open Drains

DOSAGE RATE

Use 12mm Recron® 3s @900 gram/cubic meter of concrete or Use 12mm Recron® 3s @125 grams/bag of cement of 50 kgs.



Use 6mm Recron® 3s for plastering @125 grams/bag of cement of 50 kgs in 1:4 cement to sand ratio



BATCHING TIPS

- **Mini Mixer:** After adding water to the dry mix concrete, sprinkle fibres into the rotating mixer. Ensure rotation of the mixer at maximum RPM after adding fibres for at least 2 mins as per Clause. 10.3.1 of IS 456.
- **Manual Mixing:** Prepare a dry mortar and make a pond. Sprinkle fibres over the dry mortar and mix uniformly, add some water and prepare 30% of the dry mortar into a slurry and mix thoroughly for 5-10 minutes. Then mix the slurry with the remaining dry mortar until a uniform paste is generated.
- **RMC Plant:** At the time of the addition of water, open the fibre packet and pour fibres into the mixer. After mobilizing concrete from the mixer to the truck, rotate the transit mixer at maximum RPM to ensure uniform distribution of the fibres.

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