TECHNICAL DATA SHEET

SLURRY-FIL™ ROVING AND PRE-CHOPPED FIBER

FOR SLURRY SURFACING

DESCRIPTION

- Slurry- FIL™ fibers are designed to work in conjunction with the materials commonly used in slurry surfacing mixes. With a specific gravity of 2.68, Slurry-FIL™ fibers have a similar specific gravity to aggregate, and this inherent characteristic assures quick and uniform dispersion within the matrices.
- The fibers' physical properties also assure peak performance will be achieved when used at the recommended addition rate of 0.2 to 0.4% by dry material weight.

TYPICAL PROPERTIES

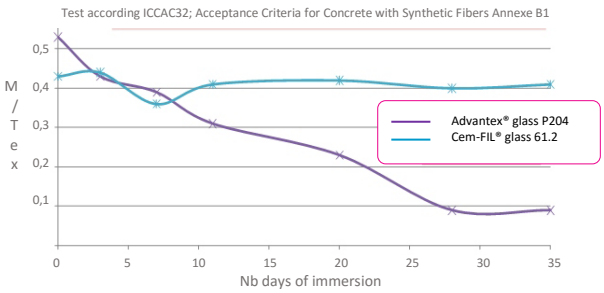
Strand Tensile Strength	1.7 GPa
Elastic Modulus	72 GPa
Specific Gravity	2.68
Strain to Failure	2.4 %
Softening Point	860°C / 1580°F
Fire performance	Incombustible

TENSILE STRENGTH RETENTION OF SLURRY-FIL™ GLASS VS. E-GLASS

- Long term exposure of traditional glass can have a significant effect on long-term performance. Due to its special formulation, Owens Corning alkali-resistant (AR) glass displays significantly improved performance in alkali environments.

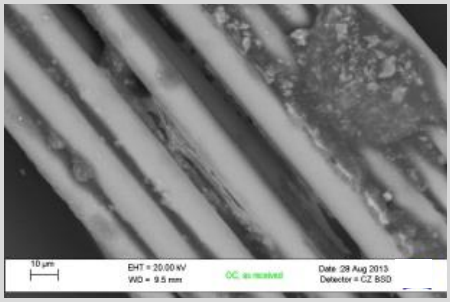
Source: Tensile Strength Retention test, Owens Corning internal test

Retention of tensile strength as fct immersion in lime solution pH = 12,5

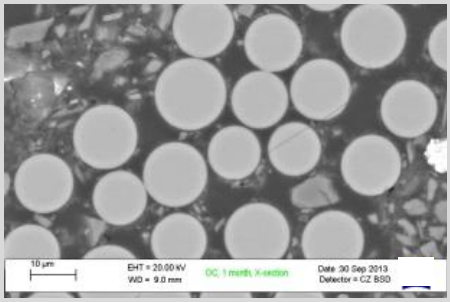


SLURRY-FIL™ GLASS UNDER MAGNIFICATION

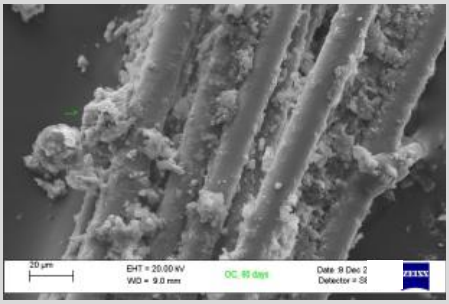
Source: Slurry-FIL™ fibers under magnification test, Owens Corning internal test



This slide shows a bundle of 14 micron diameter filaments. Each bundle consists of 200 filaments which are designed to remain integral. This assures maximum performance from every fiber bundle.



This is a cross-sectional view of a Slurry-FIL™ bundle that is completely encapsulated within the slurry surfacing matrix. This tight fiber configuration guaranties the fiber strands will perform as intended.



After 90 days, inorganic material has begun to grow around the fiber strands. This process increases the fibers' bond to the asphalt matrices, which in turn enhances the peak performance provided by each fiber strand.

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FLEXURAL TENSION TEST (ISSA TB-146)

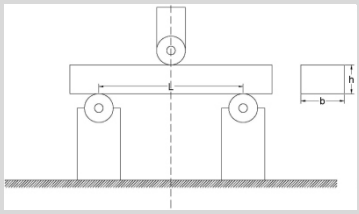
Without fiber	With 0.2 % Slurry-FIL™ fibers	
		The flexural capabilities of non fiber reinforced slurry surfacing is almost impossible to measure. However, pavement flexibilty increases dramatically with the addition of 0.2% Slurry-FIL™ fibers. Complete and uniform fiber dispersion plays a key role in the ultimate flexural capabilities of pavements.

WET TRACK ABRASION LOSS (ISSA TB-100)

	Aggregate 2012-001				Aggregate 2012-002				Aggregate 2012-003			
	No fiber				**No fiber**				**No fiber**			
% oil	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec
10 %	16.26	50	33.9	75	40.65	50	85.4	75	18.97	50	73.2	75
12 %	10.84	50	21.7	75	16.26	50	31.2	75	14.905	50	35.2	75
14 %	21.68	50	20.3	75	10.84	50	27.1	75	6.775	50	24.4	75
	0.2 fiber				**0.2 fiber**				**0.2 fiber**			
	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec
10 %	24.39	50	32.5	75	56.91	50	47.4	75	63.685	50	73.2	75
12 %	14.905	50	20.3	75	17.615	50	29.8	75	24.39	50	16.3	75
14 %	6.775	50	17.6	75	14.905	50	20.3	75	8.13	50	17.6	75
	0.4 fiber				**0.4 fiber**				**0.4 fiber**			
	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec	1 hr g/ft	1 hr spec	6 days g/ft	6 days spec
10 %	29.8	50	61	75	56.9	50	50.1	75	46.1	50	62.3	75
12 %	21.7	50	32.5	75	21.7	50	24.4	75	25.7	50	42	75
14 %	14.9	50	37.9	75	20.3	50	35.2	75	19	50	21.7	75

CONCLUSION: Type of aggregate and percent of emulsion used had the biggest impact in the final results; however 0.2% Slurry-FIL™ fibers improved the overall performance in the surface durability from 2 to 56%.

MICRO SURFACING FLEXURAL BEAM TEST

Flexural Toughness Geometry	Micro surfacing flexural beam in test apparatus	Flexural Tension – AMPT Overlay Test	
			■ The Micro Surfacing Flexural Beam Test quantifies micro surfacing mix properties related to strength and cracking resistance. ■ Field materials used for testing with and without fiber at 0°C and 10°C ■ Area under the curve (Energy) 18% improvement from fiber at 0°C, and 73% improvement from fiber at 10°C temperature and fiber loading significant at 95% level.

Sources: IE Flexural tension test, Wet tracks abrasion and Micro surfacing flexural tests, MWV Specialty Chemicals, 2013

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