

Material Specification

TC1 Revision A

Polyester Resin Composite TC1

Material Specification					
Created: CH	Date: 6/23/2009	Revision: A	Released: Ron C	Material Code: TC1	Description: Polyester Resin

1. Scope

This document describes property requirements for a material primarily used in bushings and wear pads.

2. Specification

Hardness	Rockwell M	55 to 80 ¹
Hardness D	DIN 53505	80
Co Friction	Internal	0.15-0.08
Density	DIN 53479	1.25 g/cm ³
Tensile Strength - Lengthwise	DIN 53504	90 N/mm ²
Tensile Strength - Crosswise	DIN 53504	76 N/mm ²
Compression Strength = to Laminate		345 N/mm ²
Compression Strength ⊥ to Laminate		138 N/mm ²
Flexural Strength = to Laminate		138 N/mm ²
Flexural Strength ⊥ to Laminate		107 N/mm ²
Shear Strength		134 N/mm ²
Modulus	DIN 53504	33,000 N/mm ²
Water Absorption		<0.1%
Coefficient of thermal Expansion	20 to 100° C	
= to Laminate	X 10 ⁻⁵	6 to 7
⊥ to Laminate	X 10 ⁻⁵	12 to 13
Water Absorption		<0.1%
Minimum Service Temp.		-35° C
		-31° F
Maximum Service Temp.		120° C
		240° F
Color		Gray/Blue/Yellow

¹ Rockwell M readings are currently under review due to large variations in readings.

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3. Test References

Abrasion	DIN 53516
Compression Set 100C 24hrs	DIN 53517
Compression Set 70C 24 Hrs	DIN 53517
Density	DIN 53479
Elasticity	DIN 53512
Hardness A	DIN 53505
Hardness D	DIN 53505
Impact Resilience	DIN 53512
Tear Strength	DIN 53507
Tensile Strength	DIN 53504
Ultimate Elongation	DIN 53504
100% Modulus	DIN 53504
20% Modulus	DIN 53504
300% Modulus	DIN 53504

4. Revisions

Revision: A
Date: 9/12/2009
Written By: CH
Approved: RC
Date Approved: 9/12/2009
Reason: Updated to new format

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