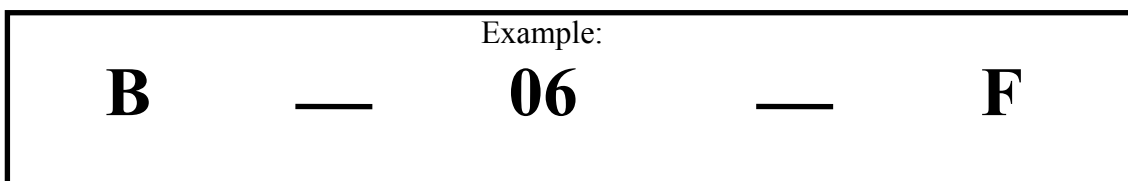
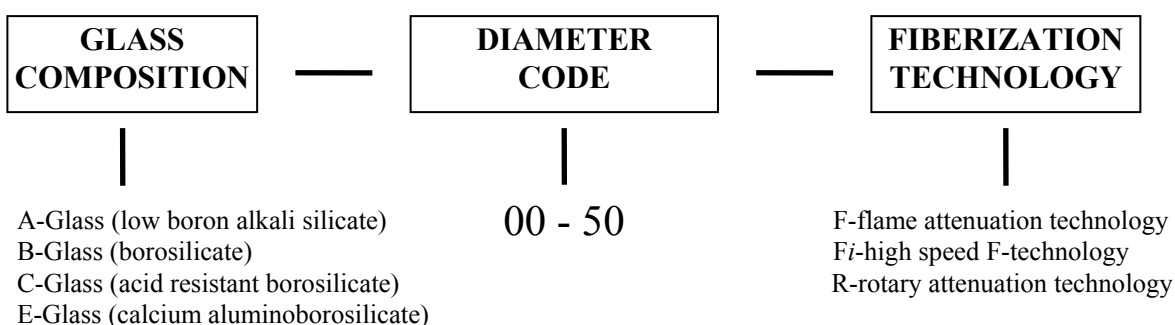




GLASS MICROFIBER TECHNICAL DATA SHEET

I. PRODUCT DESIGNATION:

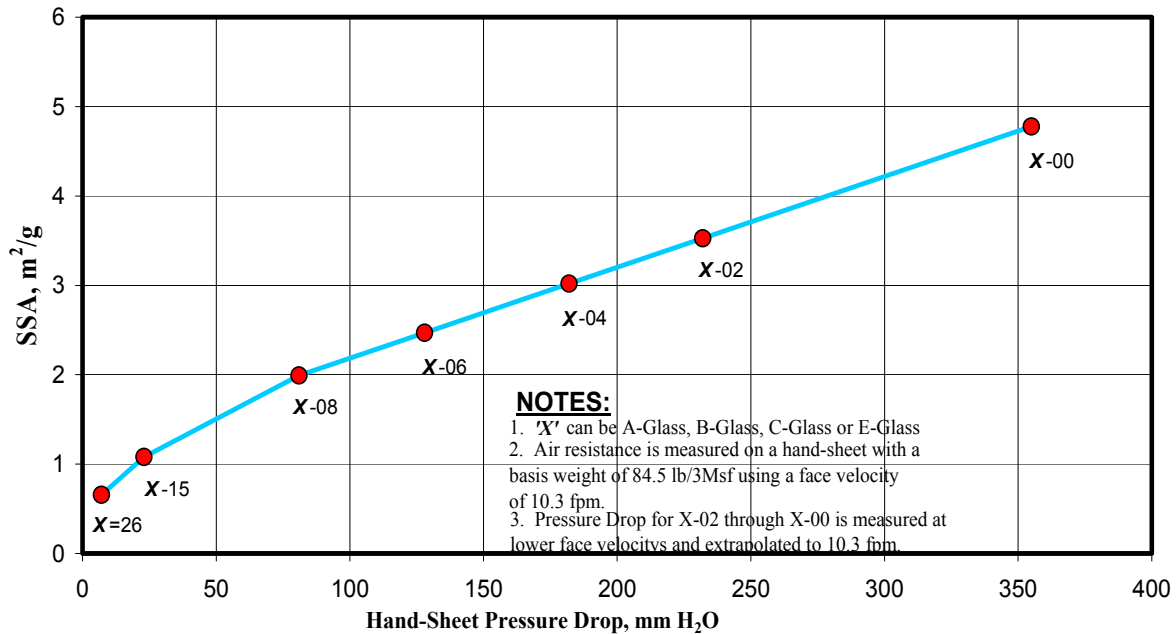
The product grade designation system incorporates: four glass chemistries (A, B, C or E-Glass), various diameter codes, and three proprietary fiberizing processes (F, F(i), and R-technology):



II. Standard Product Grades Available:

A-Glass	B-Glass	C-Glass	E-Glass
-	B-00-F	-	-
A-02-F	B-02-F	C-02-F	-
A-04-F	B-04-F	C-04-F	E-04-F
-	B-04-Fi	-	-
A-06-F	B-06-F	C-06-F	E-06-F
-	B-06-Fi	C-06-Fi	-
A-08-F	B-08-F	C-08-F	E-08-F
-	B-08-Fi	C-08-Fi	-
-	B-10-F	-	-
-	B-15-F	C-15-F	-
-	B-15-Fi	C-15-Fi	-
-	-	C-15-R	-
A-26-F	B-26-R	C-26-R	-
-	B-39-R	C-39-R	-
-	B-50-R	C-50-R	-

III. Relationship Between Specific Surface Area (SSA) and Pressure Drop for Selected Grades:



IV. Chemical Properties:

GLASS COMPOSITION	A-GLASS (%)	B-GLASS (%)	C-GLASS (%)	E-GLASS (%)
SiO ₂	69.0 – 72.0	55.0 - 60.0	63.0 - 67.0	50.0– 56.0
Al ₂ O ₃	2.5 - 4.0	4.0 - 7.0	3.0 - 5.0	13.0 – 16.0
B ₂ O ₃	< 0.09*	8.0 - 11.0	4.0 - 7.0	5.8 – 10.0
Na ₂ O	10.5 - 12.0	9.5 - 13.5	14.0 – 17.0	< 0.6
K ₂ O	4.5 – 6.0	1.0 - 4.0	0-2.0	< 0.4
CaO	5.0 - 7.0	1.0 - 5.0	4.0 - 7.0	15.0 – 24.0
MgO	2.0 - 4.0	0.0 - 2.0	2.0 - 4.0	< 5.5
Fe ₂ O ₃	< 0.2	<0.2	<0.2	< 0.5
ZnO	0-2.0	2.0 - 5.0	< 0.1	-
BaO	-	3.0 - 6.0	< 0.1	-
F ₂	-	< 1.0	< 1.0	< 1.0

* B₂O₃ contains 31.1% boron by weight. It follows that the maximum allowable boron content in A-Glass is 0.028%.

V. Test Methods:

- (1) **Glass Composition:** ISO, DIN, and BSI standards
- (2) **Air Resistance (AR):** Method LI 10.12. The difference in air pressure across a hand-sheet with basis weight of 84.5lbs/3MSF at a specified face velocity. (Method LI 10.10).
- (3) **Air Permeability (AP):** Method LI 10.12. The velocity (fpm) of air passing through a hand-sheet with basis weight of 84.5lbs/3MSF, when a differential pressure of 0.5 inches of water is applied across the sheet. (Method LI 10.10).
- (4) **Tensile Strength:** Method LI 10.06. Tensile load (lbs) to break a 1 in. wide strip cut from a laboratory hand-sheet with a basis weight of 84.5lbs/3MSF.
- (5) **Shot Content & Unfiberized Glass:** Method LI 10.02.
- (6) **Sampling:** Samples are taken from the bales during manufacture (Method LI 10.03).
- (7) **Physical & Chemical Performance Properties:** Represent typical average values obtained with standard sampling & test methods applied during manufacturing. No warranty is expressed or implied.

VI. Handling:

- (1) **Packaging:** LFI's Glass Microfiber are packaged in heavy duty UV stabilized plastic bags or pulpable paper bags. Each bale is labeled with product designation code, nominal weight and bale identification number. Depending on the method of transportation, bales are stretch wrapped in various sized units with thick plastic sheets on bottom.
- (2) **Health & Safety:** LFI's Glass Microfiber is considered a safe material and should be handled according to the issued Material Safety Data Sheet (MSDS).