

M-710 - General Yarn Specifications



Fiberglass is a natural, lustrous, white fiber that AGY produces in either a yarn, roving or chop form. The filaments are smooth, non-cellular and generally cylindrical in form and with the exception of the inorganic sizing, are non-combustible.

General Product Properties

Product nomenclature is based on the industry standards established by ASTM D578, and are produced in an ISO 9001:2008 certified facility.

In general, the sizing on the various products can be burned off under certain conditions. Weather tests have indicated comparatively unlimited stability under repeated cycles of heat, cold, sunlight, dampness and drying.

AGY products, in general, shall be free of the following internal or external characteristics for yarns:

Trapped waste	Dirt, oil or grease	Mixed yarns
Ends out	Damaged yarn	Cut tubes or bobbins
Unbalanced yarn	Sloughs	Protruding ends
Bad builds*	Loops	Water spots

AGY accepts no responsibility for any damaged or sloughed material that is contained in a carton that shows any evidence of physical abuse.

*The build shall not extend beyond the edge of the bobbin base, and undercuts shall not exceed 3/16" (5mm).


Each individual package shall be labeled with an identifier and will be packaged in a container suitable to ensure adequate protection in transit and storage. Each carton shall have a content label that appropriately identifies the contents.

The metering tolerance for all bobbin yarn shall be +3% metered length.

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Labeling

All pallets have a product label that has the following content:



Labels on the pallet include:

- ROHS Compliance Symbol:** Green diamond with 'Green Material RoHS Pass' text.
- Product description:** ECC1200 1/0 1.0Z EC4.5 4.1 1X0 Z40
- Product code:** 64B52501
- Unique pallet identifier:** 15062A017
- Product date (YY/MM/DD):** 15/03/03

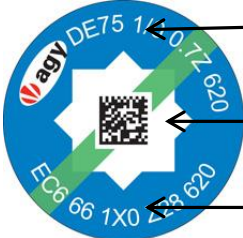
BINDER	PKG	PKG WEIGHT OR METERED	PACKAGES PER PALLET
622	7636	METERED	216

TAILS/NO TAILS	SPLICE FREE/SPLICE
NO TAILS	SPLICE FREE

Quantity	Net	Gross
496 LBS	679 LBS	225 KG
		308 KG

Additional label details: Serial 5621, Product Code 64B52501, Gross 679 LBS, Net 496 LBS, Made in USA 086397, Date 15/03/03 10:33.

Each individual package also contains a label to easily identify the product. The various types of labels are:



- Product description (US units):** agy DE75 1.0 0.17 620
- Bar code for traceability:** QR code in the center.
- Metric product description:** EC6 66 1X0 Z40 620

Specialty Product Identifiers:

Our specialty glass products, such as S-2 Glass and L-Glass have a unique product identifier label, making the products easy to identify. The colors for these labels are:

- S-2 Glass® Yarns = **Orange**
- L- Glass® Yarns = **Purple**



M-710 - General Product Specifications Yarns

Product Nomenclature

AGY follows the ASTM D578 convention for naming the various yarn products. The fundamentals of that naming system are, for example:

ECDE75 1/0 0.7Z 620 8571

Where,

E = Glass composition (E=electrical, L=Low dielectric, S=high strength)

C = Type of filament (C=continuous, T=texturized)

DE = Filament diameter (see chart)

75 = Yield designation

1/0 = Number of strands / number of twisted strands plied together

0.7 = Twist in the yarn

Z = Direction of the twist

620 = Binder

8571 = Bobbin type

Filament Designations		Range for Filament Diameter Average	
U.S. Units (letter)	SI Units (microns)	Microns	Inches
BC	4	3.60 to 4.40	0.00014 to 0.000170
C	4.5	4.41 to 5.07	0.00017 to 0.000190
D	5	5.08 to 6.32	0.00020 to 0.000249
DE	6	5.72 to 6.96	0.00023 to 0.000274
E	7	6.35 to 7.61	0.00025 to 0.000299
F	8	7.62 to 8.86	0.00030 to 0.000349
G	9	8.89 to 10.15	0.00035 to 0.000399
H	11	10.16 to 11.42	0.00040 to 0.000449
J	12	11.43 to 12.69	0.00045 to 0.000499
K	13	12.70 to 13.96	0.00050 to 0.000549
L	14	13.97 to 15.23	0.00055 to 0.000599
M	16	15.24 to 16.50	0.00060 to 0.000649
N	17	16.51 to 17.77	0.00065 to 0.000699
P	18	17.78 to 19.04	0.00070 to 0.000749
Q	20	19.95 to 20.31	0.00075 to 0.000799
R	21	20.32 to 21.58	0.00080 to 0.000849
S	22	21.59 to 22.85	0.00085 to 0.000899
T	23	22.86 to 24.12	0.00090 to 0.000949
U	24	24.13 to 25.40	0.00095 to 0.000999

Test Methods and Certificates

A copy of test methods and or a certificate of conformity may be issued upon request.






AGY certifies that all of the AGY products are in compliance with the current REACH and RoHs requirements. Specific details pertaining to these regulations are available upon request.

Property	Test Method
Yardage / Tex	W-07Ea
Binder Solids Content	W-07Ea
Moisture Content	W-07Ea
Twist	D-15A
Tensile Strength	S-01Fm
Broken Filaments	M-07E

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Bobbin Specifications

Yarn Package Dimensions

Bobbin	7636		8542		8571		9225		9228	
										
Type Build	Double Taper		Milk bottle		Milk bottle		Straight		Straight	
Measurement Units	US (in)	SI (cm)	US (in)	SI (cm)	US (in)	SI (cm)	US (in)	SI (cm)	US (in)	SI (cm)
Type	Plastic tube		Plastic tube		Plastic tube		Plastic spool		Plastic spool	
Inside Diameter (ID)	2.38	6.05	2.38	6.05	3.30	8.39	1.68	4.26	1.68	4.26
Length (L)	14.00	35.56	13.25	33.66	17.62	44.77	11.08	28.13	11.63	29.53
Traverse (T)	12.18	30.94	10.97	27.86	15.00	38.1	9.13	23.18	9.14	23.16
Flange Diameter (FD)	3.96	10.06	6.00	15.24	7.70	19.56	4.31	10.95	5.50	13.97
Bare bobbin (Nom. Weight)	0.51 lbs	229.30 g	0.55 lbs	249.5 g	1.06 lbs	480.4 g	0.45 lbs	200.4 g	0.77 lbs	347.4 g
Max Full Package Diameter (D)	4.50	11.43	5.88	14.92	7.58	19.24	4.18	10.62	5.05	12.83

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Storage, Shelf Life and Handling

Storage and Shelf Life:

AGY recommends storing the materials in accordance with appropriate safety considerations, away from exposure to the elements and at 65-80F (18-27C) and 50-70% humidity. If the materials are stored under these conditions, they are stable, non reactive and will not degrade or exhibit negative characteristics for at least 3 years from the date of manufacture. Unused, unopened product older than this is likely still in good condition, however careful evaluation is recommended. Prior to use, pallets should be placed in the production area and any plastic wrap removed for a minimum of 24 hours to allow the material to acclimate to the processing environment. Special care should be given to pallets being moved from a cold environment into a warm, humid area as condensation may occur and this additional moisture can negatively impact the runability of the material, however, once the material has acclimated, this will no longer be an issue.

For product traceability reasons, the pallet label should be recorded or retained.

Handling:

Fiberglass products process best if temperature and humidity are controlled, primarily because this will help to control the buildup of static electricity, fuzz and fly. AGY recommends that the material be run at 70 +/- 5 degrees F and 60 +/- 5% RH.

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