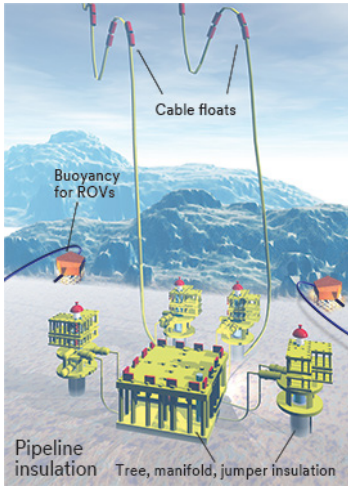


3M™ Glass Bubbles for coating and syntactic foams used in insulation applications

Keep your profits flowing



3M Glass Bubbles are high-strength, low-density hollow glass microspheres used in many kinds of syntactic foam compositions for insulation and buoyancy. Because of their insulation and buoyancy properties, adding 3M glass bubbles to your foams can help you improve your equipment reliability in deep-water applications which then can help you keep your production and profits flowing..

- Able to achieve overall heat transfer coefficient (OHTC) (U values) of 2 W/m² K and below, to help you keep product flowing at greater depths
- Significantly lighter and more flexible, so that your equipment can reach greater depths and longer tieback distances
- More compact, 3M glass bubbles allow you to have more insulated pipeline wound per spool for easier, faster, more economical installation

3M Glass Bubbles Typical Physical Properties (Not for specification purposes.)

Product	Calculated Thermal Conductivity* (W•m ⁻¹ •K ⁻¹)	Crush Strength		Density (g/cc)
		Test Pressure (psi)	Survival by Volume (%)	
S35	0.152	3,000	80%	0.35
S38	0.158	4,000	80%	0.38
S38XHS	0.158	5,500	90%	0.38
S38HS	0.158	5,500	80%	0.38
S32HS	0.147	6,000	90%	0.32
K46	0.173	6,000	80%	0.46

*Calculated Thermal Conductivity of glass syntactic polyurethane (GSPU) foam at 40 volume % loading, assuming a thermal conductivity of 0.19 W•m⁻¹•K⁻¹ for unfilled polyurethane. K values calculated @25°C

Customer Service

Central Europe Region:

**3M D-A-CH (Germany, Austria
Switzerland)**

Advanced Materials Division

Phone: +49 2131 8819 185

E-Mail: specialmarkets@mmm.com

Further Information, visit our German website

www.3M.de/Glassbubbles

Carl-Schurz-Straße

41453 Neuss

Germany

West Med Region:

3M Advanced Materials Division

West Mediterranean Region

3M en France, 1 Parvis de l'Innovation

CS 20203

95006 Cergy-Pontoise cedex

France

Phone +33 1 76 39 01 50

Spain

Phone +34 919 01 81 77

Portugal

Phone +351 210 200 444

South East Europe Region:

3M Advanced Materials Division

South East Europe Region

3M Italia Srl

Via Norberto Bobbio, 21

20096 Pogliano (Milano)

Italy

Phone +39 2 70351

Turkey

Phone +90 216 538 07 77

Greece

Phone +30-2106885300

Romania

Phone +40-212028000

USA

3M Advanced

Materials Division

3M Center

St. Paul, MN 55144-1000

United States

Phone: 1 800 367 8905

Latin America

3M Brasil

Via Anhanguera km

110 Sumare

Sao Paulo CEP 13181-900

Brasil

Phone: 0800 0132333

falecoma3m@mmm.com

3M Mexico

Santa Fe 190, Col. Santa Fe

Deleg. Alvaro Obregon

Mexico D.F., C.P. 01210

México

Phone: 800 120 3636

materialesavanzados@mmm.com

Asia

3M Japan

6-7-29, Kita-Shinagawa

Shinagawa-ku

Tokyo 141-8684

Japan

Phone: 81 570 022 123

3mcompany.jp/autoglassbubbles

3M Korea

18F, 82, Uisadang-daero

Yeongdeungpo-gu, Seoul, 150-705

Korea

Phone: 82 80 033 4114

www.3M.co.kr/glassbubbles

3M Thailand

14th Floor

The PARQ Building

88 Ratchadaphisek Road

Khlong Toei, Bangkok

Thailand

Phone: 66 0 2666 3666

3M India

NO.48-51

Electronic city

Hosur Road

Bangalore Karnataka-560100

India

Phone: 91 1800 425 3030

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3M Advanced Materials Division

3M Center

St. Paul, MN 55144 USA

Phone 1-800-367-8905

Web 3M.com/glassbubbles

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