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Tech Note

GEL COAT MIXING GUIDELINES

Gel Coat Mixing Guidelines

Background:

As polyester gel coats age, some material separation may occur. For this reason, gel coats must be mixed before use to maximize performance properties and minimize application difficulties.

Interplastic Corporation recommends mixing gel coats for a minimum of 5 to 10 minutes before each shift. Mixing will ensure product consistency.

The agitation level should allow for product movement all the way to the walls of the container with the least amount of turbulence possible. Do not over mix gel coats.

Over-mixing can break down the thixotropy, increasing the tendency to sag. Over-mixing can also cause monomer loss and air entrapment. Both may contribute to porosity.

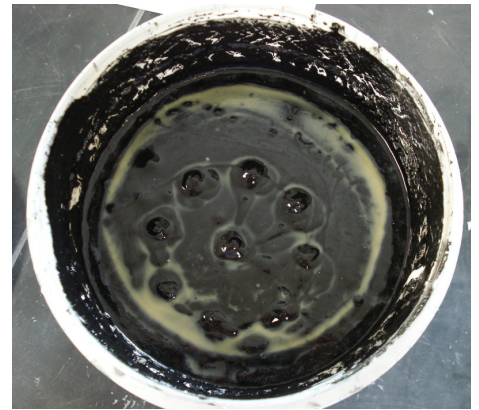
Do not use air bubbling for mixing gel coat. It does not move material effectively and is a source for contamination and air introduction.

Do not use a paint shaker immediately before gel coat use. Shaking can also introduce air into the gel coat that can cause porosity and shaking may temporarily reduce the thixotropy of a gel coat which can cause sagging.

Keep in mind the role that container type plays in gel coat mixing. Totes are much more difficult to mix than drums and pails.

Interplastic gel coats are designed to be used as supplied. No thinning is required or recommended. Optimum application temperature for Interplastic gel coats is 65°F - 90°F (18°C - 32°C).

Interplastic gel coats should be stored in closed, opaque containers at temperatures not exceeding 77°F (25°C). Do not keep gel coat near catalyst storage areas. To avoid decomposition keep away from direct sunlight and excess heat.

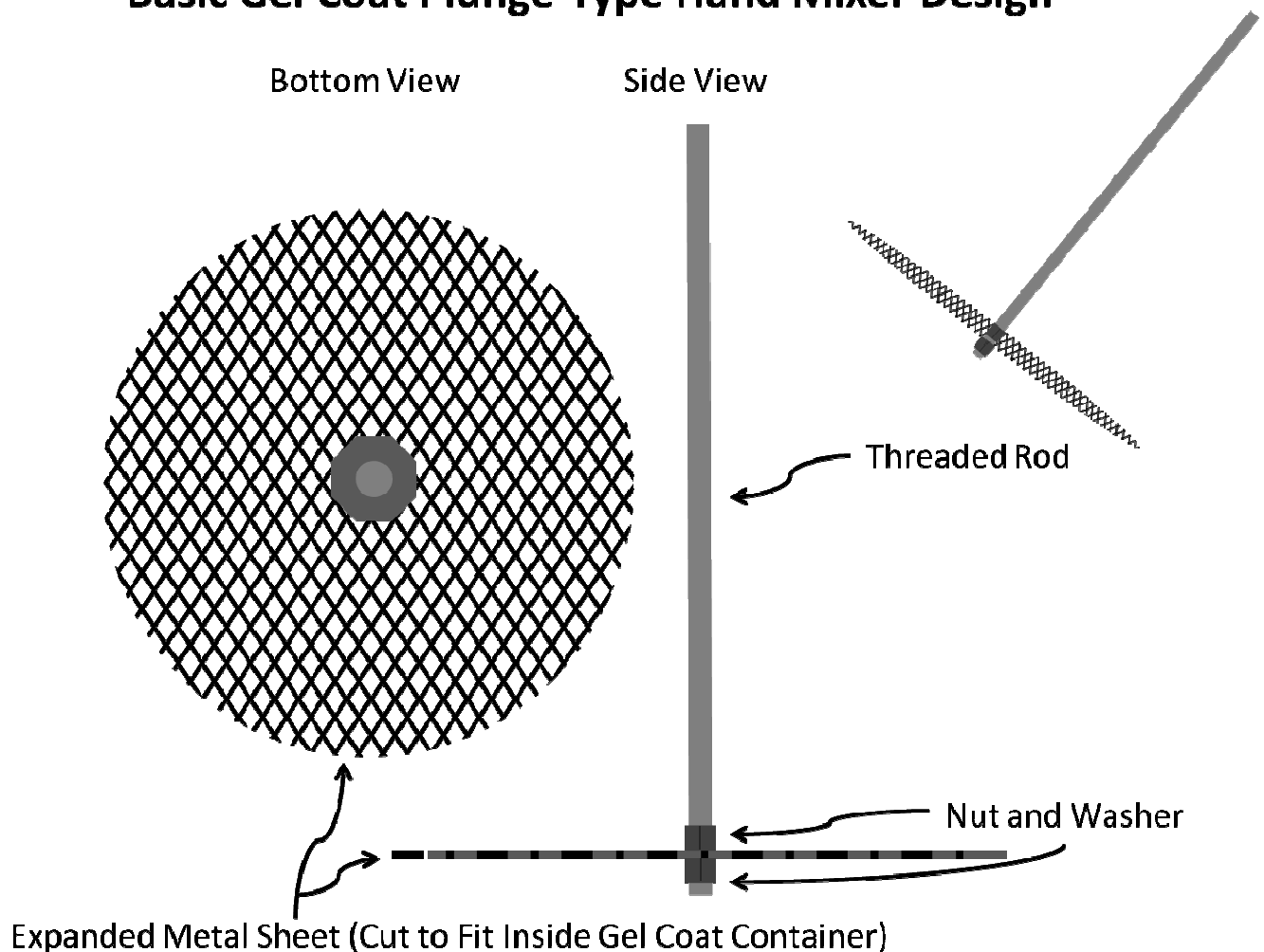


Mixing by hand:

Interplastic gel coats should be mixed for a minimum of 5-10 minutes before each shift. Small quantities of gel coat can be mixed by hand using a spatula, a paddle mixer, or other device depending on the size of the container.



Basic Gel Coat Plunge-Type Hand Mixer Design



This simple plunge-type mixer can be used with an open-head drum or pail. The plunger can be left in the container during use which reduces cleaning time and materials. The container should be closed after mixing to prevent monomer loss.

Mechanical Mixing:

For larger containers, mechanical mixing may be appropriate.

Air and electric powered pail, drum, and tote mixers are available from various manufacturers. Choose a mixer design that will maximize material flow and minimize material shear for the container type used. The mixing speed needed to move material effectively will vary depending on the equipment used. Select pumping style mixing blades which promote axial flow. The use of high shear conditions created by dispersion style blades is not required.



Use care not to touch the mixer blades to the side of the container when mixing. Doing so may damage the mixer and the container and may introduce metal or plastic shavings into the gel coat



An end-over-end drum rotator or tumbler can be used to mix gel coats. They provide good material movement without introducing shear forces that can affect viscosity, entrapping air, or causing excess monomer loss.



Suppliers of Mixing Equipment:

- 1) **Indco, Inc.**
P. O. Box 589
New Albany, IN 47151-0589
Phone: 812-945-4383
1-800-942-4383
Fax: 1-812-944-9742
www.indco.com
- 2) **Grovhac Inc.**
4310 North 126th Street
Brookfield, WI 53005
Phone: 1-800-369-2475
Fax: 1-800-369-2476
www.grovhac.com
- 3) **Myers Engineering, Inc.**
8376 Salt Lake Avenue
Bell, CA 90201
Phone: 323-560-4723
Fax: 323-771-7789
www.myersmixer.com
- 4) **Charles Ross & Sons Company**
710 Old Willets Path
Hauppauge, NY 11788
Phone: 631-234-0500
Fax: 631-234-0691
www.mixers.com
- 5) **Fawcett Company**
3863 Congress Parkway
Richfield, Ohio 44286, USA
Phone: 330-659-4187 Ext. 7000
Fax: 330-659-6991
www.fawcettco.com
- 6) **Gilmore-Kramer Company**
P.O. Box 72679
40 Sprague Street
Providence, RI 02907
Inside RI: 401-331-4149
Toll free: 1-800-544-3137
Fax: 401-454-1391
www.gilmorekramer.com
- 7) **BASCO, Inc.**
2595 Palmer Avenue
University Park, IL 60484-4105
800-776-3786
www.bascousa.com
- 8) **Laval Lab.**
2567 Chomedey Boulevard
Laval (Quebec) H7T 2R2
Canada
Telephone : +1 450.681.3883
Fax : +1 450.681.9939
www.lavallab.com