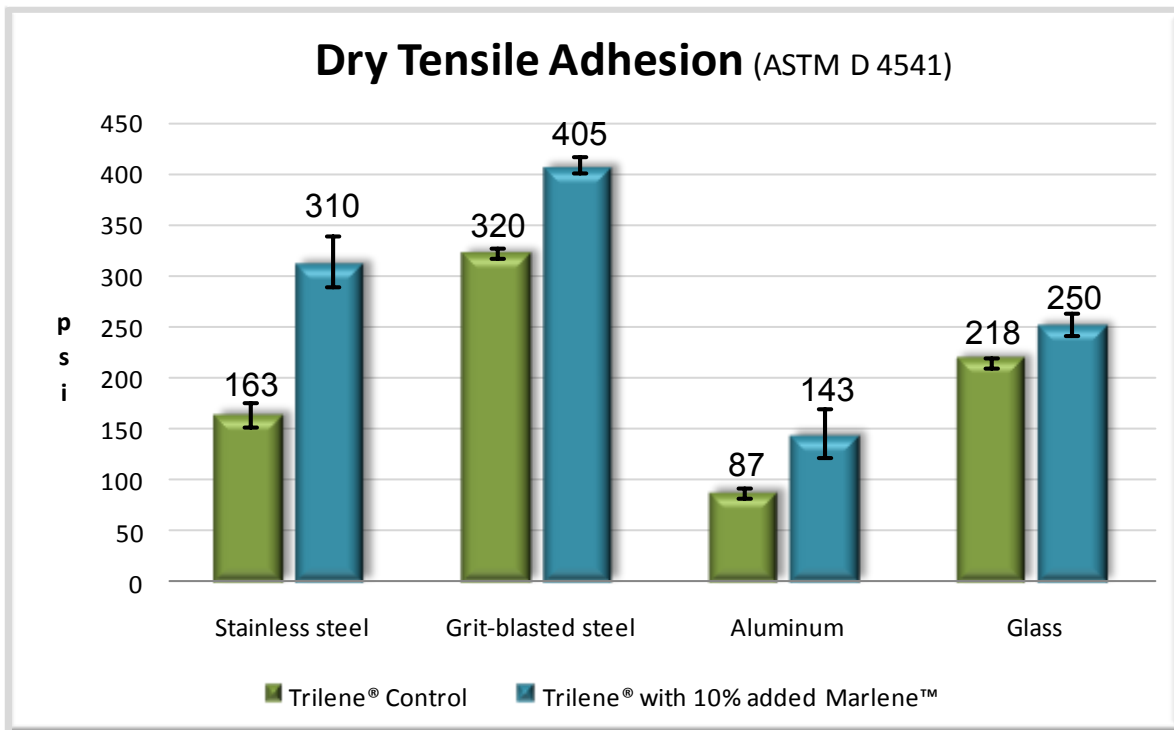
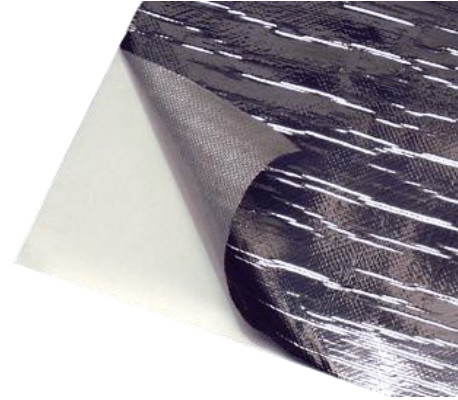


Look What Marlene™ Can Do For You!

- 90% Improvement in Adhesion to Stainless Steel
- 64% Improvement in Adhesion to Aluminum
- 26% Improvement in Adhesion to Grit Blasted Steel
- 15% Improvement in Adhesion to Glass



Why Marlene™

- Compatibilizer
- Coupling Agent
- Adhesion Promoter
- Polymer Modification
- Impact Modification

Products

- Marlene™ CP 80-1 (MAH @ 1 %)
- Marlene™ CP 80-2 (MAH @ 2 %)
- Marlene™ CP 1100-1 (MAH @ 1 %)
- Marlene™ CP 1100-2 (MAH @ 2 %)

Experimental

Trial formulations were prepared as outlined in the following table. The t-butylperoxybenzoate was added after all of the other components were thoroughly mixed using a Flack-Tek mixer.

Each formulation was used within 1 hour of adding the peroxide.

	Trilene® Control	Trilene® with 10% added Marlene™
Trilene® 65	50	40
Marlene™ CP80-2	-	10
para-chlorobenzotrifluoride	50	50
HVA-2	2	2
Cobalt Naphthenate 6%	2	2
t-butylperoxybenzoate	4	4

The testing surfaces were wiped clean with mineral spirits prior to use. A 3 mil thick coating of each formulation was applied and allowed to cure for 1 hour at 80°C prior to attaching the pull stub. The coating was scored to the metal and pull stubs with an abraded test surface of 20 mm diameter were attached to the coating using a two-component epoxy adhesive (Araldite 2011), which was allowed to cure for twenty-four (24) hours at ambient conditions. The pull stubs were then detached using a DeFelsko PosiTest Automatic Adhesion Tester. The force (in psi) required to remove each pull stub was recorded along with the location of break and approximate percentage of each. The location of break is defined as adhesive (a split at the interface of the substrate and test coating) or cohesive (a failure within the test coating). The results of the testing can be found in the chart below. All observed adhesive failures where, adhesive at the coating interface with the substrate.

- Tensile adhesion (pull-off strength) was measured in accordance with ASTM D 4541
- "Pull-Off Strength of Coatings Using Portable Adhesion Testers," Annex A5,
- "Self-Aligning Adhesion Tester Type V.
- " Stainless steel and glass substrates were obtained from Cheminstruments, of Ohio.
- Aluminum substrates were obtained from Q-Test.
- Grit-blasted steel substrates were obtained from a local supplier (Lotel metal fabrication).

Conclusion

- 90% Improvement in Adhesion to Stainless Steel
- 64% Improvement in Adhesion to Aluminum
- 26% Improvement in Adhesion to Grit Blasted Steel
- 15% Improvement in Adhesion to Glass

