

We spend an immense amount of time discussing the mechanical aspect of our old cars, and we spend a goodly amount on the paint, but one of the areas almost ignored is the fabric tops - fixed-head or convertible. To discuss the various types of fabrics used - both yesterday and today - we have gone to one of the most respected and oldest fabric manufacturers of those types of materials: The Haartz Corporation.

We asked Eric Haartz to share some of his, and his family's, experience with us. He has done an exemplary job. Over the next three issues (including this one) we will look at the difference in top fabric, at the types of materials, at the history of some of the fabric and the available fabrics today which can capture the essence of the look, yet provide the best protection and wear with today's material.

Editor

A RESTORER'S GUIDE FOR IDENTIFICATION, RESEARCH AND REPLICATION OF AUTOMOBILE TOP MATERIALS - Part I

INTRODUCTION

An understanding of trade and technical terms is often the beginning of knowledge about any aspect of vintage-car restoration. The same holds true for top materials. Although the auto industry is more than a century old, the very little bits of documentation about top materials offer limited help to the car hobbyist and restorer. I hope that these articles solve some of the problem of inadequate information.

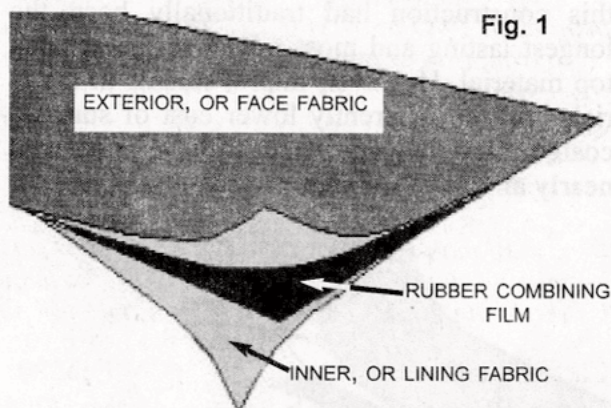
Automotive promotional and trade literature often contains bewildering trade names and terms in connection with soft trim materials. You will find many of those bewildering terms here, too, but with definitions or explanations. For the benefit of international readers, terminology here follows North American practice. This guide introduces the subject in several ways helping to steer the restorer toward the most authentic materials available. The guide is adapted from a version on our company's web-

site (www.haartz.com) which contains an accompanying glossary that defines technical terms and common trade names.

TOP MATERIAL TYPES

Most automotive top materials over the years have been coated fabrics of several basic types. Their waterproof nature, performance characteristics and even cost have usually proved superior to all other options for soft top material on open- and convertible-bodied cars. The coated materials have been of four basic constructions:

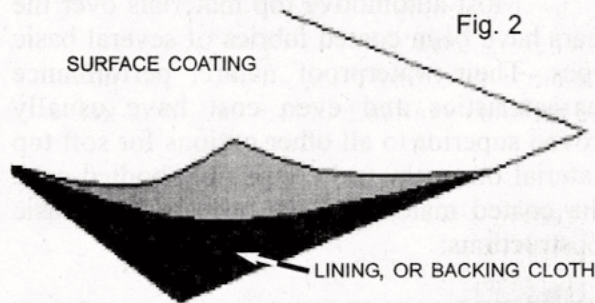
1) **THREE-PLY CLOTH** - two layers of cloth with an intervening film of rubber (Figure 1). The exterior fabric has usually been selected for good weatherability. The interior fabric provides additional strength, as well as style in many cases. This construction has been referred to as 'cloth' or 'canvas' top material, 'mackintosh', 'rubber-coated fabric' and 'three-ply material' (a relatively newer term seen in promotional information for current generation convertibles). Incidentally, the term 'mackintosh' was derived from the earliest manufacture of this kind of material for raincoats in the early through mid-1800s.



Rubber-combined cloth material construction.

2) **SURFACE-COATED, TWO-PLY** - a fabric coated on the exterior side. The coating usually has a pattern embossed on the visible surface for decorative purpose. The embossing is usually referred to as the 'grain' with names referring to specific grain styles. The cloth is the

interior surface, providing the substrate on which the coating is applied (Figure 2) and if well chosen, imparts the basic physical strength of the overall composite. In the coated fabrics trade, this two-ply construction is known as a 'single texture' material.

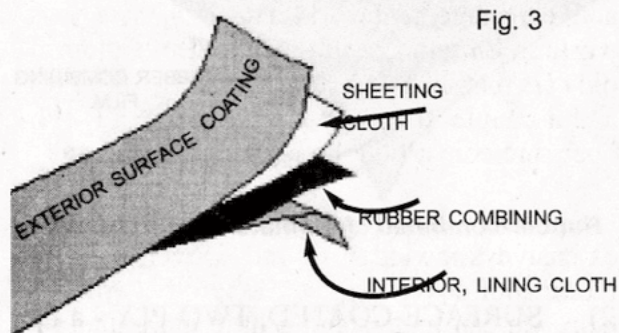


Surface-coated, single texture material construction.

3) SURFACE-COATED, FOUR-PLY - a four layer construction consisting of the following from exterior to interior (Figure 3):

- embossed surface coating
- an undyed sheeting weave cloth (like bed sheeting cloth, with a simple and fairly open weave)
- an intervening rubber film
- a dyed, interior surface cloth.

Known in the trade as 'Double Texture', this construction had traditionally been the longest lasting and most robust surface-coated top material. However, improvements in materials and the inherently lower cost of surface-coated two-ply top material have displaced nearly all use of the four-ply construction.



Surface-coated, double texture material construction.

4) DOUBLE-COATED FABRIC - a fabric coated on both the outside and inside. This con-

struction has seen relatively little use for top material beyond applications for fairly modern four-wheel-drive, sport utility vehicles and for truck tarpaulins.

Brand names were more prevalent for surface coated top materials in the first half of the 1900s. The best known brands in these categories prior to 1942 were: Carr's Neverleek, Chase Leather/Drednaut, Fabrikoid, Pantasote and DuPont's Rayntite. Although not top material, Zapon coated fabric (usually designated as a 'leather cloth') was favored for fabric skinned car bodies made under the Weymann patents in the 1920s. Few brands of later top materials are as well documented or known, except for the British Everflex convertible top material. In the category of cloth top materials, Burbank is well known as a premium, uncoated cloth material, used between World Wars I and II. Makers of three-ply cloth top materials in the early 1900s had limited success with brand names. Successful branding of such materials was more prevalent in recent decades, with Happich Sonnenland® (a Haartz product since 2001), Stayfast® and Twillfast® (both are Haartz products) being the most widely known. Haartz also used a Jonarts trade name prior to 1960, and we still use it for specialty antique styles.

While these varieties of coated fabrics satisfied most of the demand for automobile top materials over time, some alternatives should be noted. Car, truck and custom body companies used these other materials for relatively specialized situations. Cost or performance characteristics limited their use.

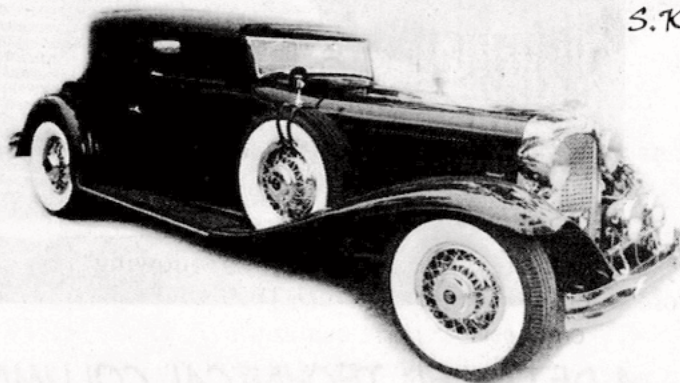
Leather, probably one of the very first top materials, saw widespread use through 1905, but limited use after that. The later use was most prevalent on town cars and others with limited production or custom bodies of formal and ornate style, even through the 1930s. Leather had a natural appeal but was maintenance-intensive, and it is very heavy when soaked.

Cotton canvas, in an uncoated, heavy duck weave, has endured in automotive use. Duck weave is a category of tightly woven fab-

rics in which each yarn alternately passes over and under intersecting yarns. Khaki cloth, based on military fabrics of around 1900, was a popular material for folding tops through about 1908. Later use diminished, but the prominent Burbank brand from England enjoyed good use into the 1930s. Some, like Burbank, were made up with a heavy and tight weave, and were water repellant in their own right. Other canvas materials had been impregnated with a wax-based material. Builders of military and agricultural vehicles continued to use this kind of material until recent times.

Oilcloth of the kind made before 1940 consisted of a cotton fabric (usually duck weave) impregnated with a linseed-oil based compound. The cheap vinyl tablecloth materials known as 'oilcloth' now are not at all similar. That original form of oilcloth was used for some rigid tops on utility and commercial vehicles into the 1930s, as well as for side curtains on open-bodied buses and commercial vehicles. Oilcloth remained reasonably water repellant, if fixed in place on a rigid canopy top, or was rolled up, as used with side curtains. It did not do so well on folding tops, so its use there is rare and specialized.

Cotton enameling duck was also used in the fabrication of rigid tops on early closed bodied cars and on commercial vehicles. After trimming this cloth onto the top, a builder painted it, usually conforming to the paintwork on the rest of the body. The use of enameling duck on vehicle tops essentially vanished after the 1930s. Enameling duck is a specialty category of cotton cloth intended as a substrate for painting and remains available in the textile market.



**NEXT MONTH:
Fabric Construction and
Historical Look at Top Fabrics**

The Haartz Corporation, Acton, MA, is the world's leading maker of automotive convertible top materials and a producer of varied cover materials for automotive interior trim. It is a family-owned company.

Convertible top materials range from vinyl types to the company's well-known Stayfast® and Twillfast® cloth top materials made in Acton, and Sonnenland® cloth to ping, made by the firm's Mannheim, Germany plant. The Haartz family and the corporation have over a century of experience and a heritage making fine convertible and open-car top materials, as well as automotive roofcover fabrics. 'Haartz cloth' replacement and restoration materials are sold primarily through respected distributors and aftermarket top makers. Please see their website (www.haartz.com) for a wealth of additional information.

Eric Haartz, the company's CEO, is one of several resident car enthusiasts. In addition to an over thirty year's career with The Haartz Corporation, Eric is the resident Pre- 1950 Car Guy. When not engaged in the active management work of the firm, he enjoys working on and driving a small collection of old cars that include a few Brass-Era machines and a couple of classic-era Packards, all with open and convertible bodystyles!

Our thanks to Eric for sharing his extensive knowledge of the convertible and fabric roof-cover market. Hopefully, with his help, we can understand a little more about a segment of car restoration that is all too often ignored.

S.K.