



# "Greener" Traffic Signs

## Prismatic Reflective Sheetings

Advances in both manufacturing processes and on-the-road performance of reflective sheeting have resulted in a win-win situation for the traffic safety industry: Sheetings are made with far less environmental waste, and the finished product is brighter than ever. Compared to glass-beaded sheeting, 3M prismatic sheeting requires far

less consumption of fossil fuels in the manufacturing process and produces dramatically less liquid solvent and paper-based waste. In total, the manufacturing process for 3M's prismatic sheetings reduces energy consumption by 77%, VOC emissions by 97%, and solid waste by 46% compared to glass bead sheeting manufacturing processes.

## Aluminum Alloy 3105 - "The Environmentally Friendly Alloy"

Specifying Alloy Grade 3105 for signs and sign blanks over the traditional alloy 5052 can significantly improve the environment. This alloy is manufactured from 99% scrap, of which 80% is from post consumer sources. Compare that to 5052 which is produced from 0% to 80% scrap, depending on aluminum mill, of which 10% or less is from

post consumer sources. Additionally, the process by which virgin aluminum is made from mining and smelting bauxite is energy-intensive, because it requires the use of vast amounts of electricity. Specify a recycled 3105 alloy; however, and 95% of the energy used to mine and smelt it is saved. These savings can make their way down to your sign budget!

## ASTM-B921 - Conversion Coatings for Aluminum

Conversion coating is the process of chemically changing the surface of aluminum to give it more adhesion capability and corrosion resistance than it would have without it. The process is accomplished through various production methods and by using various chemicals. It has been a practice performed by the metal finishing industry since the 1920's and there are a number of processes available. For decades the primary specification for the conversion coating of aluminum sign blanks has been ASTM-B449, which is based on hexavalent chromium chemistry.

You may not be aware that within the past few decades, many government agencies, including OSHA, the United States Military, and the European Union, have placed severe restrictions or even banned the use of or importation of products that have hexavalent chromium conversion coats. These regulations have prompted the



metal finishing industry to develop non hexavalent chrome conversion coating technologies which are known to be more environmentally friendly and provide increased human safety during the manufacturing process.

As a result of this industry effort, the ASTM specification was created for the non-hexavalent chrome conversion coatings known as ASTM-B921. ATSSA (American Traffic Safety Services Association) recommends that all jurisdictions adopt this non-hexavalent coating standard as an alternative to existing hexavalent chrome standards. We hope that you will consider this new ASTM standard in future bid specifications.



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