

New use for natural rubber

NATURAL rubber has for decades made important contributions to the global economy. Many countries, especially those within Asean, are actively involved in supplying the world with natural rubber.

The biggest demand for natural rubber is in the automotive sector, principally tyres. For many years now, close to 70% of the global natural rubber demand comes from the tyre-manufacturing industry. The bigger the tyre, the more the percentage of natural rubber used.

There are some properties of natural rubber that are still unmatched by its synthetic counterparts. The excellent heat build-up is especially unique in natural rubber. This largely explains why aviation tyres, where the ability to absorb high heat is important, are fully made with natural rubber.

The other high-volume demand for natural rubber, although not as high a percentage as tyres, is in the manufacture of latex-dipped products especially examination gloves, condoms and catheters, just to name a few. Again, latex from natural rubber is favoured in such applications principally because of its unique strength and resilience.

Of late, producing countries have started to flirt with some new applications of natural rubber. One which has generated a lot of interest is the use of natural rubber in roads.

Initially, it was looked upon as a way to reduce the rather unhealthy levels of stocks, which many saw as a factor behind the long period of depressive prices for the com-



modity. The low pricing was seen as not helpful if the world was to enjoy a sustainable supply of this important elastomer.

Furthermore, any disruption in the world supply could wreak havoc on many downstream industries including tyres, automotive and aviation.

It is in the interest of global manufacturing that natural rubber is always available in sufficient quantities.

After a few years of trials in Thailand, Malaysia and Indonesia, the results obtained suggest that natural rubber can in fact be a viable material to improve the performance and durability of roads.

Many now see a potentially high-volume demand for natural rubber for road construction in the world market.

A recent seminar in Bangkok highlighted many new data on R&D and road trials, which strongly suggest that the potential is real. Thailand has led the way in many of the trials, working closely with its Department of Highways.

Visits to the factories and road projects showed convincing evidence on the business opportunities that can emerge from this new application of natural rubber.

Based on the findings of the latest studies as well as the deliberations held throughout the seminar, the meeting came out with a number of recommendations.

First, the use of natural rubber in roads could be a game changer for the natural rubber industry. Although 5%-8% by volume in the bitumen is considered small, the total usage can be considerable if

most, if not all, the roads in the world use the natural rubber modified bitumen mix. This is not impossible going by the initial results shared at the seminar in Bangkok.

Thus far, the development work has been limited to only the bitumen mix for pavements. But the results shown by a study at the Department of Highways in Thailand indicated a potential for more natural rubber in the base course as well.

Many are now convinced that the use of natural rubber in roads has a real potential to influence the world natural rubber market.

The initial findings certainly show promise but more work is needed to develop the natural rubber-based formulations and test them under appropriate road construction conditions.

A regional R&D alliance is being proposed to better invest in and coordinate the research. And based on the initial assessments, the use of natural rubber in road construction could be a more sustainable market intervention strategy than the buying and selling of the commodity in the open market.

Using the right strategy, there is no reason why usage of natural rubber cannot be included in the international road construction standard and code of practice.

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