

AUTHENTICATION OF GEMS – CHALLENGES AND PERILS IN THE INDIAN PERSPECTIVE

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ABSTRACT

The identification of mix-ups comprising natural simulants, synthetics and synthetic simulants of the natural gems are the major challenges for gem testing laboratories everywhere. Proper and exact identification followed by certification from accredited laboratories help in instilling confidence among the customers resulting in growth of the trade.

Based on the data on the number of natural gemstones vis-a-vis their mix-ups as reported by the Gem Testing Laboratory (GTL), GSI, Kolkata particularly over a period of three years between 2001-2002 and 2003-2004, an attempt has been made to study and get an insight into the growing level of influx of mix-ups in standard varieties of astral gems. The gem varieties of mineral species corundum such as ruby and sapphire have their major share of mix-ups followed by other gems. New categories of mix-ups for gems whose colour and clarity are enhanced by various methods of commercial treatments are yet to be categorised or defined as separate group of simulants.