

Book Reviews

DEDEYNE, R. & QUINTENS, I. (2007) Tables of gemstone identification. Glirico-Ghent: Belgium.

Tables of Gemstone Identification represents a massive collection of data the purpose of which "intends to facilitate the determination of the mineralogical or organic identity of gem materials". This 309-page A4 page size hard cover tabulates identifying properties against various lists of known gemstones and the products of Nature (names listed in black), commercial stones (in blue) and artificial products (in orange). The authors of this book claim that use of these tables will avoid the problems gemmologists commonly face with respect to finding their way through the labyrinth of overlapping values published in books and the literature in order to find the identifying properties of a particular gemstone or gem material.

In this book essential identifying data are arranged into eight (8) separate tables.

Table 1 lists gemstones and artificial products in order of increasing refractive index, using the lowest refractive index that is printed in red as a reference. Arrows in the first column reveal whether the material can occur in a higher or lower range of refractive index. Other data tabulated in this table include birefringence, density (S.G.), presence of a spectrum, pleochroism and relevant remarks

In Tale 2 opaque and translucent materials with gem potential are grouped into their most commonly encountered colours and listed in increasing refractive index. In this table additional data tabulated include birefringence, density, hardness, special properties and comments.

Table 3 lists materials with gem potential in groups that increase in density by steps of 0.01. Other data tabulated in this table include optical character, highest and lowest refractive index, and minimum and maximum birefringence

Table 4 tabulates and illustrates, in colour, the visible absorption spectrum of materials as viewed with the diffraction grating spectroscope. In this table materials are listed alphabetically, commencing with actinolite. Also tabulated are characteristic colours and a detailed description of the features of each absorption spectrum.

In Table 5 gem materials are listed in

alphabetical order together with supplementary information with respect to their colour/s, chemical composition, hardness, crystal system, cleavage, lustre, and supplementary information on origin that can be used to confirm an identification.

The essential properties of glass are illustrated in Table 6, courtesy of a straight line graph of Refractive Index v Density (in g/cm^3).

Table 7 tabulates identifying data for the garnet group and includes detailed data on Grossular (Tsavorite, Hessonite), Pyrope, Pyrope-Almandine, Pyrope-Spessartine (Malaya), Andradite-Grossular, Spessartine, Almandine, Almandine-Spessartine, Andradite (Demantoid, Melanite) and Uvarovite. Other data in this table include colour/s, range of refractive index, range of density, characteristic spectrum, inclusions, and remarks. Due to their overlapping properties, garnets that pose problems for identification are grouped in separate areas of the table together with their important discriminatory factors.

The identifying features of diamond imitations, with refractive indices above 1.81, are tabulated in ascending order in Table 8. Additional data included in this table include birefringence, optical character, density, absorption spectrum, inclusions and further remarks that may assist identification.

When carefully considered, this book contains a wealth of information that should prove extremely useful to those gemmologists attempting to identify problem gemstones, biological gem materials, or man-made artificial products. The authors of this book are to be congratulated on both their scholarship and diligence.

This reviewer has one minor criticism of this book. Due to the small size and lack of detail, this book's Bibliography is not particularly useful.

A VALUABLE SET OF IDENTIFICATION TABLES **Ed**

Review copy courtesy of Glirico, Hubert Frère Orbaniaan 221, B-9000 Gent, Belgium

Recommended retail price €83.96, excluding taxes and shipping costs. Orders can be forwarded to glirico@gemmologie.be.

