

Harmotom a stilbit-Ca z ložiska polymetalických rud Křižanovice v Železných horách (Česká republika)

Harmotome and stilbite-Ca from the base-metal deposit Křižanovice in Železné hory Mountains (Czech Republic)

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Abstract

Two zeolites (harmotome and stilbite-Ca) have been identified during mineralogical studies of samples from the Křižanovice base metal deposit in Železné hory Mountains (Czech Republic). Stilbite-Ca forms dark yellow, yellow-brown and orange fan-shaped aggregates and crystals with pearly lustre and a size of about 5 mm. Whitish and yellow-white aggregates and subhedral crystals of harmotome with a size of up to 5 mm grow on stilbite-Ca. Columnar harmotome crystals with hexagonal habit and size up to 2 - 3 mm were observed only rarely. The unit-cell parameters of harmotome, refined from powder X-ray data, are: a 9.882(2) Å, b 14.104(3) Å, c 8.657(2) Å, β 124.59° and V 993.3(3) Å³. Chemical analyses of harmotome correspond to the empirical formula $(\text{Ba}_{1.73}\text{K}_{0.30}\text{Na}_{0.19}\text{Ca}_{0.13})_{\Sigma 2.35}(\text{Si}_{11.13}\text{Al}_{4.91})\text{O}_{32} \cdot 12 \text{H}_2\text{O}$. The refined unit-cell parameters of stilbite-Ca are: a 13.640(2) Å, b 18.238(2) Å, c 11.271(1) Å, β 128.00° and V 2209.4(4) Å³. Chemical analyses of stilbite-Ca correspond to the empirical formula $(\text{Ca}_{4.01}\text{Na}_{0.88}\text{K}_{0.21}\text{Mg}_{0.03}\text{Ba}_{0.02})_{\Sigma 5.15}(\text{Si}_{26.72}\text{Al}_{9.31})\text{O}_{72} \cdot 28 \text{H}_2\text{O}$.

Key words: harmotome, stilbite-Ca, X-ray powder data, unit-cell parameters, chemical composition, Křižanovice, Czech Republic

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