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Ivonne J. Ortiz* (ortizi@muohio.edu), Department of Mathematics and Statistics, Miami University, Room 123 Bachelor Hall, Oxford, OH 45056, and **Jean-Francois Lafont** (jlafont@math.ohio-state.edu), Department of Mathematics, The Ohio State University, 231 West 18th Avenue, Columbus, OH 43210-1174. *Splitting formulas for certain Waldhausen Nil-groups.*

For a group G that splits as an amalgamation of A and B over a common subgroup C , there is an associated Waldhausen Nil-group, measuring the "failure" of Mayer-Vietoris for algebraic K-theory. Assume that (1) the amalgamation is acylindrical, and (2) the groups A , B , G satisfy the Farrell-Jones isomorphism conjecture. In this joint work with Jean-Francois Lafont, we show that the Waldhausen Nil-group splits as a direct sum of Nil-groups associated to certain (explicitly describable) infinite virtually cyclic subgroups of G . We note that a special case of an acylindrical amalgamation includes any amalgamation over a finite group. Taken in combination with recent work by several mathematicians (J. Davis, Q. Khan, A. Ranicki, H. Reich, and F. Quinn), this completely reduces (modulo the Farrell-Jones isomorphism conjecture) the computation of Waldhausen Nil-groups associated to acylindrical amalgamations to the considerably easier computation of Farrell Nil-groups associated with various virtually cyclic subgroups. (Received February 12, 2008)