

| Addressing mode name                 | Syntax             | Example  | Meaning   | Length of address specifier in bytes |
|--------------------------------------|--------------------|----------|---|--------------------------------------|
| Literal                              | #value             | #-1      | -1  | 1 (6-bit signed value)               |
| Immediate                            | #value             | #100     | 100   | 1 + length of the immediate          |
| Register                             | rn                 | r3       | r3  | 1                                    |
| Register deferred                    | (rn)               | (r3)     | Memory[r3]  | 1                                    |
| Byte/word/long displacement          | Displacement (rn)  | 100(r3)  | Memory[r3 + 100]  | 1 + length of the displacement       |
| Byte/word/long displacement deferred | @displacement (rn) | @100(r3) | Memory[Memory [r3 + 100]]                                     | 1 + length of the displacement       |
| Indexed (scaled)                     | Base mode [rx]     | (r3)[r4] | Memory[r3 + r4 × d]<br>(where <i>d</i> is data size in bytes) | 1 + length of base addressing mode   |
| Autoincrement                        | (rn)+              | (r3)+    | Memory[r3]; r3 = r3 + <i>d</i>                                | 1                                    |
| Autodecrement                        | – (rn)             | –(r3)    | r3 = r3 – <i>d</i> ; Memory[r3]                               | 1                                    |
| Autoincrement deferred               | @(rn)+             | @(r3)+   | Memory[Memory[r3]]; r3 = r3 + <i>d</i>                        | 1                                    |

**FIGURE E.50 Definition and length of the VAX operand specifiers.** The length of each addressing mode is 1 byte plus the length of any displacement or immediate field needed by the mode. Literal mode uses a special 2-bit tag and the remaining 6 bits encode the constant value. If the constant is too big, it must use the immediate addressing mode. Note that the length of an immediate operand is dictated by the length of the data type indicated in the opcode, not the value of the immediate. The symbol *d* in the last four modes represents the length of the data in bytes; *d* is 4 for 32-bit add.