A multiplicação das matrizes n matrizes de transformação homogênea resulta em

$$T_n^0 = \prod_{i=1}^{n} A_i = \left[\begin{array}{ccc:c} r_{11} & r_{12} & r_{13} & d_x \\ r_{21} & r_{22} & r_{33} & d_y \\ r_{31} & r_{22} & r_{33} & d_z \\ \hdashline 0 & 0 & 0 & 1 \end{array}\right] \tag{B.1}$$

na qual os termos são

$$r_{11} = \Big[\Big[\left((-s_1s_3 + c_1c_2c_3)\,c_4 + s_2s_4c_1\right)c_5 + \left(-s_1c_3 - s_3c_1c_2\right)s_5\Big]c_6 + \left((-s_1s_3 + c_1c_2c_3)\,s_4 - s_2c_1c_4\right)s_6\Big]c_7 + \Big[-\Big[\left(-s_1s_3 + c_1c_2c_3\right)c_4 + s_2s_4c_1\Big]s_5 + \left(-s_1c_3 - s_3c_1c_2\right)c_5\Big]s_7 \tag{B.2}$$

$$r_{12} = -\Big[\Big[\left((-s_1s_3 + c_1c_2c_3)\,c_4 + s_2s_4c_1\right)c_5 + \left(-s_1c_3 - s_3c_1c_2\right)s_5\Big]c_6 + \left((-s_1s_3 + c_1c_2c_3)\,s_4 - s_2c_1c_4\right)s_6\Big]s_7 + \Big[-\Big[\left(-s_1s_3 + c_1c_2c_3\right)c_4 + s_2s_4c_1\Big]s_5 + \left(-s_1c_3 - s_3c_1c_2\right)c_5\Big]c_7 \tag{B.3}$$

$$r_{13} = \Big[\left((-s_1s_3 + c_1c_2c_3)\,c_4 + s_2s_4c_1\right)c_5 + \left(-s_1c_3 - s_3c_1c_2\right)s_5\Big]s_6 - \left((-s_1s_3 + c_1c_2c_3)\,s_4 - s_2c_1c_4\right)c_6 \tag{B.4}$$

$$r_{21} = \Big[\Big[\left((s_1c_2c_3 + s_3c_1)\,c_4 + s_1s_2s_4\right)c_5 + \left(-s_1s_3c_2 + c_1c_3\right)s_5\Big]c_6 + \left((s_1c_2c_3 + s_3c_1)\,s_4 - s_1s_2c_4\right)s_6\Big]c_7 + \Big[-\Big[\left(s_1c_2c_3 + s_3c_1\right)c_4 + s_1s_2s_4\Big]s_5 + \left(-s_1s_3c_2 + c_1c_3\right)c_5\Big]s_7 \tag{B.5}$$

$$r_{22} = -\Big[\Big[\left((s_1c_2c_3 + s_3c_1)\,c_4 + s_1s_2s_4\right)c_5 + \left(-s_1s_3c_2 + c_1c_3\right)s_5\Big]c_6 + \left((s_1c_2c_3 + s_3c_1)\,s_4 - s_1s_2c_4\right)s_6\Big]s_7 + \Big[-\Big[\left(s_1c_2c_3 + s_3c_1\right)c_4 + s_1s_2s_4\Big]s_5 + \left(-s_1s_3c_2 + c_1c_3\right)c_5\Big]c_7 \tag{B.6}$$

$$r_{23} = \Big[\Big[\left(s_1c_2c_3 + s_3c_1\right)c_4 + s_1s_2s_4\Big]c_5 + \left(-s_1s_3c_2 + c_1c_3\right)s_5\Big]s_6 - \Big[\left(s_1c_2c_3 + s_3c_1\right)s_4 - s_1s_2c_4\Big]c_6 \tag{B.7}$$

$$r_{31} = \Big[\left((-s_2c_3c_4 + s_4c_2)\,c_5 + s_2s_3s_5\right)c_6 + \left(-s_2s_4c_3 - c_2c_4\right)s_6\Big]c_7 + \Big[-\left(-s_2c_3c_4 + s_4c_2\right)s_5 + s_2s_3c_5\Big]s_7 \tag{B.8}$$

$$r_{32} = -\Big[\left((-s_2c_3c_4 + s_4c_2)\,c_5 + s_2s_3s_5\right)c_6 + \left(-s_2s_4c_3 - c_2c_4\right)s_6\Big]s_7 + \Big[-\left(-s_2c_3c_4 + s_4c_2\right)s_5 + s_2s_3c_5\Big]c_7 \tag{B.9}$$

$$r_{33} = \Big[\left(-s_2c_3c_4 + s_4c_2\right)c_5 + s_2s_3s_5\Big]s_6 - \left(-s_2s_4c_3 - c_2c_4\right)c_6 \tag{B.10}$$

$$d_x = 90\Big[\left((-s_1s_3 + c_1c_2c_3)\,c_4 + s_2s_4c_1\right)c_5 + \left(-s_1c_3 - s_3c_1c_2\right)s_5\Big]s_6 - 90\Big[\left(-s_1s_3 + c_1c_2c_3\right)s_4 - s_2c_1c_4\Big]c_6 - 400\left(-s_1s_3 + c_1c_2c_3\right)s_4 + 400s_2c_1c_4 + 420s_2c_1 \tag{B.11}$$

$$d_y = 90\Big[\left((s_1c_2c_3 + s_3c_1)\,c_4 + s_1s_2s_4\right)c_5 + \left(-s_1s_3c_2 + c_1c_3\right)s_5\Big]s_6 - 90\Big[\left(s_1c_2c_3 + s_3c_1\right)s_4 - s_1s_2c_4\Big]c_6 - 400\left(s_1c_2c_3 + s_3c_1\right)s_4 + 400s_1s_2c_4 + 420s_1s_2 \tag{B.12}$$

$$d_z = 90\Big[\left(-s_2c_3c_4 + s_4c_2\right)c_5 + s_2s_3s_5\Big]s_6 - 90\left(-s_2s_4c_3 - c_2c_4\right)c_6 + 400s_2s_4c_3 + 400c_2c_4 + 420c_2 + 360 \tag{B.13}$$