

Include << C:\ProgramData\MC Sec\MC Sec.mcdx

TEST - Search functions - American

Search for a specific type of section with Fields values greater or equal to the specified Values

Output is sorted according to the "Sorting" property.

Section type is $T := \text{"HSS"}$

Search for:

Second moment of area $F1 := \text{"Iy"} \quad V1 := 1200 \text{ in}^4$

Second moment of area $F2 := \text{"Ix"} \quad V2 := 1200 \text{ in}^4$

Sort results over weight $S := \text{"W"}$

$$\text{search_type_2_asc}\left(T, F1, \frac{V1}{1 \text{ mm}^4}, F2, \frac{V2}{1 \text{ mm}^4}, S\right) = \text{"HSS20X.500";HSS20X0.500;HSS508X12.7;HSS406.4X406.4X}$$

To get an array with sections

$$\text{Res} := \text{Search}_{\text{ofType}} \text{asc2}(T, F1, V1, F2, V2, S) = \begin{bmatrix} \text{"HSS20X.500"} \\ \text{"HSS20X0.500"} \\ \text{"HSS508X12.7"} \\ \text{"HSS406.4X406.4X15.9"} \\ \text{"HSS16X16X.625"} \\ \text{"HSS16X16X5/8"} \end{bmatrix}$$

To get a matrix with sections and properties

$$\text{SearchTable}_{\text{ofType}} \text{asc2}(T, F1, V1, F2, V2, S) = \begin{bmatrix} \text{"HSS"} & \text{"Iy"} & \text{"Ix"} & \text{"W"} \\ \text{"Names"} & \text{"mm}^4 & \text{"mm}^4 & \text{"kg/m"} \\ \text{"HSS20X.500"} & 566074738.8 & 566074738.8 & 154.8 \\ \text{"HSS20X0.500"} & 566074738.8 & 566074738.8 & 154.8 \\ \text{"HSS508X12.7"} & 566000000 & 566000000 & 155 \\ \text{"HSS406.4X406.4X15.9"} & 570000000 & 570000000 & 189 \\ \text{"HSS16X16X.625"} & 570237053.1 & 570237053.1 & 189.5 \\ \text{"HSS16X16X5/8"} & 570237053.1 & 570237053.1 & 189.5 \end{bmatrix}$$

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