



COMPOSITE TYPICAL PROPERTIES



**HOGEN INDUSTRIES, INC.**

Hogen Industries	Nominal Composition % Weight	Rockwell Hardness	Electrical Conductivity % IACS	Ultimate Tensile Strength PSI	Cross Breaking Strength PSI	Density GMS/CC	Thermal Expansion In/In °Cx10 <sup>-6</sup> at 20°	Thermal Conductivity W/(cm x °C) 20-400°C	Specific Heat J/(kg x °C) at 20°	Electrical Resistivity Micro Ohm x cm at 20°
H1W	55% Tungsten 45% Copper	79 B	55	63,000	110,000	12.5	11.80	2.40	251	3.13
H3W	68% Tungsten 32% Copper	88 B	52	75,000	130,000	13.93	10.90	2.10	219	3.32
H5W	68% Tungsten 32% Copper	90 B	50	85,000	140,000	14.18	10.77	2.01	214	3.45
H15W	70% Tungsten 30% Copper	90 B	50	85,000	140,000	14.18	10.77	2.01	214	3.45
H10W	75% Tungsten 25% Copper	94 B	48	90,000	150,000	14.70	10.22	1.89	201	3.59
H20W	78% Tungsten 22% Copper	96 B	46	94,000	160,000	15.12	9.30	1.84	194	3.74
H30W	80% Tungsten 20% Copper	98 B	44	96,000	170,000	15.56	9.20	1.82	188	3.92
H5TC	50% Tungsten-Carbide 50% Copper	94 B	47	70,000	140,000	11.27	12.20	--	--	--
H10TC	56% Tungsten-Carbide 44% Copper	99 B	42	75,000	160,000	11.67	11.50	--	--	--
H20TC	70% Tungsten-Carbide 30% Copper	37 C	30	85,000	180,000	12.60	9.80	--	--	--
H35S	65% Tungsten 35% Silver	87 B	53			14.50	--	--	--	--
H20S	74% Tungsten 26% Silver	90 B	47	70,000	130,000	15.50	--	--	--	--
H50S	50% Tungsten 50% Silver	70 B	65	35,000	80,000	13.40	--	--	--	--

HOGEN INDUSTRIES, INC. - 4655 MASSACHUSETTS AVENUE - INDIANAPOLIS, IN 46218  
 (800) 9-TUNGSTEN - (317) 591-5070 FAX: (317) 591-5071