



WATT DENSITY VALUE CHART

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MATERIAL	MAXIMUM OPERATING TEMPERATURE °F	MAXIMUM WATTS PER SQUARE INCH
ACID SOLUTIONS	180	40
ALKALINE SOLUTIONS AND OAKITE	212	40
AMMONIA PLTG. SOLUTIONS	50	25
AROCLOR	600	20
ASPHALT, TAR OR HEAVY COMPOUNDS	200	10 circ. 5 non circ.
	300	8 circ. 4 non circ.
	400	7 circ. 4 non circ.
	500	6 circ. 3 non circ.
BUNKER "C" FUEL OIL	160	10-15 fast circ. 4-7 non circ.
CAUSTIC SODA	210	45
	210	25 and down
	180	25 and down
CITRUS JUICES	185	20
DEGREASING SOLUTION VAPOR	275	20
DOWTHERM A LIQUID PHASE	750	18 and down
DOWTHERM A VAPOR PHASE	750	12 and down
DOWTHERM E	400	12
ELECTRO PLATING SOLUTIONS	180	40
ETHYLENE GLYCOL	300	30
FATTY ACIDS	150	20
FREON	300	3
FUEL OIL		
PREHEATING LIGHT GRADE	180+	25-30 Circulating
PREHEATING HEAVY (SEE BUNKER C)		
GASOLINE	300	2-5
GLYCERINE	50	40
HEAT TRANSFER OILS	500	20
	600	15
LEAD STEREOTYPE POT	600	35 on casting
LINSEED OIL	150	50
MACHINE OIL SAE 30	250	20-25 circ. 15-20 non circ.
METAL MELTING POT	500-900	20-27
MINERAL OIL	200	20
	400	16
MOLASSES	100	4-5

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MATERIAL	MAXIMUM OPERATING TEMPERATURE °F	MAXIMUM WATTS PER SQUARE INCH
MOLTEN SALT BATH	800-900	25-30
MOLTEN TIN	600	20
OAKITE (SEE ALKALINE SOLUTIONS)		
OIL DRAW BATH	600	20
	400	24
OILS (SEE TYPE OF OIL)		
PARAFFIN OR WAX	SOLID	4
	150	16
PERCHLOR-ETHYLENE	200	20
POTASSIUM HYDROXIDE	160	25
PROPYLENE GLYCOL	150	20
SODIUM CYANIDE	140	40
SODIUM HYDRIDE	720	28
STEEL TUBING CAST INTO ALUMINUM	500-750	50
STEEL TUBING CAST INTO IRON	750-1000	55
SOCONY VACUUM TYPE		
TRANSFER OIL	600	20
SULPHUR		
MOLTEN THERMINOLS AND HEAT	600	10
	500	20
TRANSFER OILS	600	20
TRANSFER OILS	650	15
TRICHLORETHYLENE	150	20
VAPOR DEGREASING SOLUTIONS	275	20
VEGETABLE OIL AND SHORTENING IN LIQUID STATE BELOW 100 °F	400	30-40 circ. 15-25 non circ. 5
WATER (PROCESS)	35-150	100-125 circ. 75-100 non circ.
	212	75 circ. 50 non circ.
		low flow vol. 10 high flow vol. 25-30 low flow 5-10
STEAM	300	low flow 5-10
	500	high flow 20-25 low flow 5
	700	high flow 15-20

NOTE: The above watt density values are suggested only. These values will vary with flow rates, densities and temperature. Caution must be used when applying these values in some circumstances.