

# Hamamat HMCR90

High load damping and seating material



AVM - Hamamat HMCR90 - 10c

### Why choose Farrat Hamamat HMCR90?

Farrat Hamamat is a very high load capacity resilient seating and damping material made from fibre reinforced Neoprene. It is compression moulded and made up of high grade Chloroprene (CR) / Neoprene rubber reinforced with microscopic santoweb fibres to increase strength and stiffness.

### Features

- High load bearing capacity
- High structural damping characteristics.
- Excellent ozone, oil and general chemical resistance.
- Long lifetime (in excess of 60 years).
- Fire / flame resistance.
- Can be supplies as sheets or cut to size pads and strips (including holes and slots if required) according to the customer's requirements.

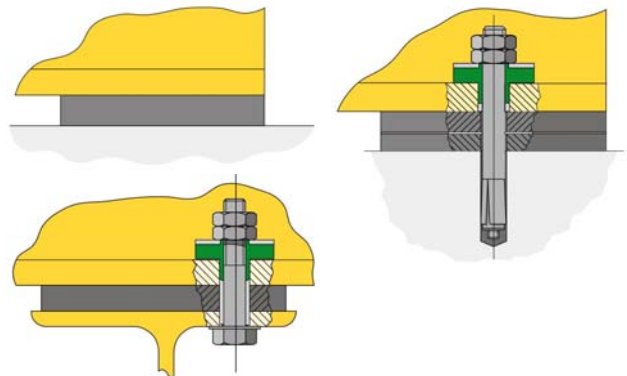
### Applications

Farrat Hamamat has been used in a wide range of applications such as;

- Resilient seating connections within concrete and steel building structures to provide full area contact seatings and allow movement and rotation.
- Structural damping of very high load applications such as building structures
- Slide bearings

In lower pressure applications it may be necessary to consider alternative materials such as Farrat CR or Isomat. Farrat are happy to advise and provide technical calculations to specify the most appropriate material.

For more detailed information and explanations of the pad performance outlined in this datasheet please refer to the Farrat design document: SVI – Structural Bearing Design.



\*Where bolt through connections are required, Farrat Anti-vibration (AW) washers and bushes should be incorporated in order to allow free movement of the pad and to ensure that the bolt does not transmit vibration across the connection.

Characteristics	Unit	Test Standard	HMCR90
Colour			Black
Thicknesses	mm		5, 10, 15, 20, 25
Hardness (IRHD) ±5		BS ISO 48	90
Static Shear Modulus	MPa	BS ISO 1827:2007	5
Ratio Dyn to Static Modulus			4
Operating Temperatures*	°C		-30 to +120
Properties subject to change outside range	°C		-10 to +80
Flammability		DIN 4102 EN ISO 11925-2	B2 B, C, D
Operational life (subject to environment)	years		65+
Standard Sheet Size	mm		1000 x 500



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Information in this brochure is for guidance only and in the interests of product development may change.

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Material Code	Material Thickness mm	Pad Length mm	Pad Width mm	Pad Area mm <sup>2</sup>	Applied Load kN	Applied Load Kg	Applied Load T	Pressure (Max 35) N/mm <sup>2</sup>	Shape Factor	Compression Modulus E N/mm <sup>2</sup>	Spring Const K N/mm	Maximum Static Deflection (Max 10%) mm	Vertical Dynamic Natural Frequency (fnd) Hz
HMCR90-5	5	50	50	2500	43.1	4306.6	4.3	17.2	2.5	172.3	86132	0.50	45.0
HMCR90-5	5	75	75	5625	196.4	19635.1	19.6	34.9	3.8	349.1	392702	0.50	45.0
HMCR90-5	5	100	100	10000	350.0	35000.0	35.0	35.0	5.0	546.0	1091967	0.32	56.2
HMCR90-5	5	150	150	22500	787.5	78750.0	78.8	35.0	7.5	915.5	4119967	0.19	72.8
HMCR90-5	5	200	200	40000	1,400.0	140000.0	140.0	35.0	10.0	1200.2	9601280	0.15	83.3
HMCR90-5	5	250	250	62500	2,187.5	218750.0	218.8	35.0	12.5	1402.0	17524482	0.12	90.1
HMCR90-5	5	300	300	90000	3,150.0	315000.0	315.0	35.0	15.0	1542.9	27772369	0.11	94.5
HMCR90-5	5	500	500	250000	8,750.0	875000.0	875.0	35.0	25.0	1807.2	90361910	0.10	102.3
HMCR90-5	5	50	500	25000	875.0	87500.0	87.5	35.0	4.5	473.8	2368843	0.37	52.4
HMCR90-5	5	100	500	50000	1,750.0	175000.0	175.0	35.0	8.3	1020.6	10206480	0.17	76.9
HMCR90-5	5	150	500	75000	2,625.0	262500.0	262.5	35.0	11.5	1332.8	19991798	0.13	87.8
HMCR90-5	5	250	500	125000	4,375.0	437500.0	437.5	35.0	16.7	1612.9	40323517	0.11	96.6
HMCR90-10	10	50	50	2500	11.7	1168.9	1.2	4.7	1.3	46.8	11689	1.00	31.8
HMCR90-10	10	75	75	5625	56.9	5686.2	5.7	10.1	1.9	101.1	56862	1.00	31.8
HMCR90-10	10	100	100	10000	172.3	17226.4	17.2	17.2	2.5	172.3	172264	1.00	31.8
HMCR90-10	10	150	150	22500	785.4	78540.5	78.5	34.9	3.8	349.1	785405	1.00	31.8
HMCR90-10	10	200	200	40000	1,400.0	140000.0	140.0	35.0	5.0	546.0	2183933	0.64	39.8
HMCR90-10	10	250	250	62500	2,187.5	218750.0	218.8	35.0	6.3	739.3	4620711	0.47	46.3
HMCR90-10	10	300	300	90000	3,150.0	315000.0	315.0	35.0	7.5	915.5	8239935	0.38	51.5
HMCR90-10	10	500	500	250000	8,750.0	875000.0	875.0	35.0	12.5	1402.0	35048965	0.25	63.7
HMCR90-10	10	50	500	25000	361.7	36169.2	36.2	14.5	2.3	144.7	361692	1.00	31.8
HMCR90-10	10	100	500	50000	1,750.0	175000.0	175.0	35.0	4.2	413.9	2069262	0.85	34.6
HMCR90-10	10	150	500	75000	2,625.0	262500.0	262.5	35.0	5.8	666.5	4998402	0.53	43.9
HMCR90-10	10	250	500	125000	4,375.0	437500.0	437.5	35.0	8.3	1020.6	12758100	0.34	54.3
HMCR90-15	15	50	50	2500	5.4	539.9	0.5	2.2	0.8	21.6	3600	1.50	26.0
HMCR90-15	15	75	75	5625	26.3	2630.0	2.6	4.7	1.3	46.8	17533	1.50	26.0
HMCR90-15	15	100	100	10000	80.9	8092.1	8.1	8.1	1.7	80.9	53947	1.50	26.0
HMCR90-15	15	150	150	22500	387.6	38759.4	38.8	17.2	2.5	172.3	258396	1.50	26.0
HMCR90-15	15	200	200	40000	1,145.8	114579.5	114.6	28.6	3.3	286.4	763863	1.50	26.0
HMCR90-15	15	250	250	62500	2,187.5	218750.0	218.8	35.0	4.2	413.9	1724385	1.27	28.3
HMCR90-15	15	300	300	90000	3,150.0	315000.0	315.0	35.0	5.0	546.0	3275900	0.96	32.5
HMCR90-15	15	500	500	250000	8,750.0	875000.0	875.0	35.0	8.3	1020.6	17010800	0.51	44.4
HMCR90-15	15	50	500	25000	168.8	16878.0	16.9	6.8	1.5	67.5	112520	1.50	26.0
HMCR90-15	15	100	500	50000	1,041.4	104135.9	104.1	20.8	2.8	208.3	694239	1.50	26.0
HMCR90-15	15	150	500	75000	2,625.0	262500.0	262.5	35.0	3.8	363.9	1819328	1.44	26.5
HMCR90-15	15	250	500	125000	4,375.0	437500.0	437.5	35.0	5.6	633.4	5278154	0.83	35.0
HMCR90-20	20	50	50	2500	3.2	316.0	0.3	1.3	0.6	12.6	1580	2.00	22.5
HMCR90-20	20	75	75	5625	15.2	1518.6	1.5	2.7	0.9	27.0	7593	2.00	22.5
HMCR90-20	20	100	100	10000	46.8	4675.6	4.7	4.7	1.3	46.8	23378	2.00	22.5
HMCR90-20	20	150	150	22500	227.4	22744.7	22.7	10.1	1.9	101.1	113723	2.00	22.5
HMCR90-20	20	200	200	40000	689.1	68905.6	68.9	17.2	2.5	172.3	344528	2.00	22.5
HMCR90-20	20	250	250	62500	1,601.9	160185.7	160.2	25.6	3.1	256.3	800928	2.00	22.5
HMCR90-20	20	300	300	90000	3,141.6	314161.9	314.2	34.9	3.8	349.1	1570809	2.00	22.5
HMCR90-20	20	500	500	250000	8,750.0	875000.0	875.0	35.0	6.3	739.3	9241421	0.95	32.7
HMCR90-20	20	50	500	25000	97.4	9741.4	9.7	3.9	1.1	39.0	48707	2.00	22.5
HMCR90-20	20	100	500	50000	615.7	61565.2	61.6	12.3	2.1	123.1	307826	2.00	22.5
HMCR90-20	20	150	500	75000	1,670.4	167040.0	167.0	22.3	2.9	222.7	835200	2.00	22.5
HMCR90-20	20	250	500	125000	4,375.0	437500.0	437.5	35.0	4.2	413.9	2586577	1.69	24.5
HMCR90-25	25	50	50	2500	2.1	211.6	0.2	0.8	0.5	8.5	846	2.50	20.1
HMCR90-25	25	75	75	5625	10.0	996.6	1.0	1.8	0.8	17.7	3986	2.50	20.1
HMCR90-25	25	100	100	10000	30.5	3052.7	3.1	3.1	1.0	30.5	12211	2.50	20.1
HMCR90-25	25	150	150	22500	149.0	14902.1	14.9	6.6	1.5	66.2	59608	2.50	20.1
HMCR90-25	25	200	200	40000	456.4	45638.8	45.6	11.4	2.0	114.1	182555	2.50	20.1
HMCR90-25	25	250	250	62500	1,076.7	107665.1	107.7	17.2	2.5	172.3	430660	2.50	20.1
HMCR90-25	25	400	400	160000	5,600.0	560000.0	560.0	35.0	4.0	387.7	2481580	2.26	21.2
HMCR90-25	25	500	500	250000	8,750.0	875000.0	875.0	35.0	5.0	546.0	5459833	1.60	25.1
HMCR90-25	25	75	500	37500	190.2	19020.0	19.0	5.1	1.3	50.7	76080	2.50	20.1
HMCR90-25	25	100	500	50000	404.6	40460.6	40.5	8.1	1.7	80.9	161842	2.50	20.1
HMCR90-25	25	150	500	75000	1,116.0	111601.8	111.6	14.9	2.3	148.8	446407	2.50	20.1
HMCR90-25	25	250	500	125000	3,580.6	358060.8	358.1	28.6	3.3	286.4	1432243	2.50	20.1