## LIST OF ABBREVIATIONS

AASHTO American Association of State Highway and

**Transportation Officials** 

AC Asphalt Concrete

AFT Apparent Film Thickness

AI Ageing Index

AMPRI Advanced Materials and Processes Research Institute

ASCE American Society of Civil Engineers

ASTM American Society of Testing and Material

BC Bituminous Concrete

BIS Bureau of Indian Standards

BS British Standard

CBR California Bearing Ratio

CL Cantabro Loss

CPWD Central Public Works Department

DBM Dense Bituminous Macadam
DMA Dynamic Mechanical Analysis

DSR Dynamic Shear Rheometer

FM Fineness Modulus

GDP Gross Domestic Product

GHG Greenhouse Gas

GL Glass - Hydrated Lime

GP Glass Powder

GSB Granular Sub-base

GTRV Global Total Rank Value

HMA Hot Mix Asphalt
HL Hydrated Lime

Hz Hertz

IIT Indian Institute of Technology

IIT (BHU) Indian Institute of Technology (Banaras Hindu

University)

INR Indian Rupee

IRC Indian Road Congress

IS Indian Standards

ISSA International Slurry Seal Association

ITFT Indirect Tensile Fatigue Test

ITS Indirect Tensile Strength

KS Kota Stone

LAS Linear Amplitude Sweep
LDF Lateral Distribution Factor

LTA Long-Term Aged

LVDT Linear Vertical Displacement Transducers

LVE Linear Viscoelastic

MBV Methylene Blue Value

MEPDG Mechanistic Empirical Pavement Design Guidance

MoRTH Ministry of Road Transport and Highways

MQ Marshall Quotient
MS Marshall Stability

MSCR Multiple Stress Creep and Recovery

NCAT National Centre for Asphalt Technology

NCHRP National Cooperative Highway Research Program

NMAS Nominal Maximum Aggregate Size

OBC Optimum Bitumen Content

PA Porous Asphalt

PATTI Pneumatic Adhesion Tensile Testing Instrument

PAV Pressure Ageing Vessel

PG Performance Grade

PI Plasticity Index

PMB Polymer Modified Bitumen
RMS Retained Marshall Stability
RTFOT Rolling Thin Film Oven Test

RV Rank Value SD Stone Dust

SEM Scanning Electron Microscopy

SHRP Strategic Highway Research Program

SMA Stone Matrix Asphalt
SP Special Publication
STA Short-Term Aged
TFO Thin Film Oven

TRB Transportation Research Board

TRV Total Rank Value

TSR Tensile Strength Ratio

UA Un-aged

USA United States of America
UTM Universal Testing Machine

VA Air Voids

VECD Viscoelastic Continuum Damage

VDF Vehicle Damage Factor

VG Viscosity Grade

VFB Voids Filled with Bitumen
VMA Voids in Mineral Aggregate

WMM Wet Mix Macadam
XRD X-Ray Diffraction
XRF X-Ray Fluorescence

G\* Complex shear modulus

G<sub>mb</sub> Bulk specific gravity of bituminous mix

G<sub>mm</sub> Theoretical maximum specific gravity of bituminous mix

 $\delta$  Phase angle

Cu Coefficient of UniformityCc Coefficient of Curvature

D<sub>50</sub> Particle size corresponds to 50% passing

 $G_0$  Initial linear viscoelastic modulus  $J_{nr}$  Non Recoverable Creep Compliance

M<sub>r</sub> Resilient Modulus

N<sub>f</sub> Fatigue Life of Mastic

S<sub>s</sub> Aggregate Specific Surface

% R Percentage Recovery

ω Angular frequency

 $\Delta t$  Time lag between stress and strain

 $au_{max}$  Maximum shear stress  $au_{max}$  Maximum shear strain