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## SYMBOLS AND ABBREVIATIONS

AASHTO	=	American association of state highway and transportation officials
$\text{Al}_2\text{O}_3$	=	Aluminum oxide
ASTM	=	American society for testing and materials
b	=	Width of beam specimen
CaO	=	Calcium silicate hydrate
CSH	=	Calcium silicate hydrate
d	=	Depth of beam specimen
DoH-S	=	Department of highway standard
DOH	=	Department of highway, Thailand
EDX	=	Energy dispersive X-ray
FA	=	Fine aggregate
$\text{Fe}_2\text{O}_3$	=	Iron oxide
$f_f$	=	Flexural strength
FHWA	=	Federal highway administration
FRC	=	Fiber reinforced concrete
GPa	=	Gigapascal
HRWR	=	High-range water reducer
$\text{Kg.m}^{-3}$	=	Kilogram per cubic meter
L	=	Length from support to support of beam specimen
LOI	=	Loss on ignition
MEPDG	=	Mechanistic-empirical pavement design guide
MgO	=	Magnesium oxide
$\text{MJ/m}^3$	=	Megajoule per cubic meter
MOR	=	Modulus of rupture
MPa	=	Megapascal
MRWR	=	Medium-range water reducer

## SYMBOLS AND ABBREVIATIONS (Continued)

NaOH	=	Sodium hydroxide
b	=	Width of beam specimen
CaO	=	Calcium silicate hydrate
CSH	=	Calcium silicate hydrate
NCA	=	Natural coarse aggregate
NCA-H-FRC	=	Hemp fiber reinforced concrete using natural coarse aggregate
NCHRP	=	National cooperative highway research program
<i>NRL</i>	=	Natural Rubber Latex
$N_f$	=	Number of cycles at failure
OPC	=	ordinary Portland cement
P	=	Apply vertical load
PCA	=	Portland cement association
RCA	=	Recycled concrete aggregate
RCA-H-FRC	=	Hemp fiber reinforced concrete using recycled concrete aggregate
SEM	=	Scanning electron microscope
SiO <sub>2</sub>	=	Silicon dioxide
SO <sub>3</sub>	=	Sulfur trioxide
SR	=	Stress ratio
vol.	=	Volume
W	=	Water
w/c	=	Water to cement ratio
wt.	=	Weight
$\epsilon$	=	Strain
$\sigma$	=	Stress
$\bar{x}$	=	Mean strength value