

## V Speeds

V SPEED	DEFINITION
V <sub>1</sub>	Decision speed on take-off; continue or reject take-off
V <sub>1WET</sub>	A/C should stop at end of ASD available on an average day
V <sub>2</sub>	Take off safety speed to be attained at screen height with OEI at V <sub>1</sub>
V <sub>2MIN</sub>	Minimum take-off safety speed; must be achieved by 35ft with OEI
V <sub>EF</sub>	The assumed speed of engine failure
V <sub>FE</sub>	Maximum flap extended speed
V <sub>GO</sub>	Minimum speed which t/off can be continued after engine failure
V <sub>LO</sub>	Maximum speed at which landing gear can be lowered
V <sub>LOF</sub>	Speed at which main wheels leave the ground on t/off
V <sub>MAXTYRE</sub>	Maximum tyre speed; must be equal to or faster than V <sub>LOF</sub>
V <sub>MBE</sub>	Maximum brake energy speed for a t/off rejected at V <sub>1</sub>
V <sub>MC</sub>	Minimum control speed where directional control and S&L flight can be maintained with a max AOB of 5degrees
V <sub>MCA</sub>	Minimum control speed in the air
V <sub>MCG</sub>	Minimum control speed on the ground
V <sub>MCL</sub>	Minimum control speed when landing
V <sub>MD</sub>	Velocity of minimum drag
V <sub>MO</sub>	Maximum operating speed
V <sub>MP</sub>	Velocity for minimum power
V <sub>MU</sub>	Minimum unstick speed at which a/c can safely t/off and climb without hazards
V <sub>P</sub>	Hydroplaning speed
V <sub>R</sub>	Speed at which pilot starts to apply back pressure to initiate rotation
V <sub>REF</sub>	Speed above screen height
V <sub>S0</sub>	Stalling speed of the a/c in the landing configuration
V <sub>S1</sub>	Stall speed of the a/c in a specific configuration
V <sub>SR0</sub>	Reference stall speed when in the landing configuration
V <sub>SR1</sub>	Reference stalling speed in a specific configuration
V <sub>STOP</sub>	Maximum speed at which t/off can be rejected and a/c is able to stop in ASD available on an average day
V <sub>TOSS</sub>	Take-off safety speed
V <sub>X</sub>	Speed for maximum angle of climb
V <sub>Y</sub>	Speed for maximum rate of climb
V <sub>ZF</sub>	Minimum safe manoeuvring speed with zero flap

$$V_{EF} < V_1 \leq V_R < V_{LOF} < V_2$$

$$V_{LOF} < V_{TYRES} < V_2$$

$$V_{MCG} \leq V_{EF} \leq V_1 \leq V_{MBE} / V_R$$