EUROPEAN WHOLE-VEHICLE TYPE APPROVAL
VEHICLES

Currently M1 Passenger road vehicles are subject to European Whole Vehicle Type Approval which is the confirmation that production samples of a design meet specified performance standards. The specification for each vehicle is recorded and only that specification is approved. EC approval of most road vehicles is based around "Whole Vehicle" framework directives:

- 70/156/EEC, as amended by 2001/116/EC,
  relating to motor vehicles and their trailers having four or more wheel (category M, N and O vehicles)
- 74/150/EEC, as amended by 2003/37/EC,
  relating to agricultural and forestry tractors (category T vehicles)
- 92/61/EEC, as amended by 2002/24/EC,
  relating to two and three-wheeled vehicles (category L vehicles)

Type approval is a formal process that in general requires third party testing by a recognised Technical Service and approval by a Type Approval Body. Each framework directive specifies the range of aspects of the vehicles that must be approved to separate technical directives.

In addition to testing, type approval includes a Conformity of Production (COP) element. COP requirements are based around established quality systems principles and, in general, certification to ISO 9001 may be an acceptable basis. The current car type approval legislations can be streamlined to focus on the key safety and environmental issues which have been recognised over the years. These topics come under the following headings:

- Environment
- Active Safety
- Passive Safety
- Lighting Equipment
- Miscellaneous

When considering EC approval, the process is based around a "whole vehicle" Directive that will specify the range of aspects of the vehicle that must be approved to separate technical Directives. Hence, in order to gain EC whole vehicle approval, a vehicle first will have to be approved for a variety of topics before then gaining a 'Whole Vehicle Type Approval' following an inspection of a complete vehicle fitted out with approved components. The chart below shows subjects which can be applied to M1 vehicles.

Environment	Passive Safety	Active Safety	Lighting Equipment	Other Directives
01. Sound Levels EC 1999/101	19. Safety Belt Anchorage EC 2005/41	05. Steering Equipment EC 1999/7	21. Reflex Reflectors EC 97/29	27. Towing Hooks EC 96/64
02. Emissions EC 2003/76	16. Exterior Projections EC 79/488	07. Audible Warning EC 70/388	22. Side, Rear and Stop lamps EC 97/30	10. Radio Interference Suppression EC 2006/28
11. Diesel Smoke EC 2005/21	15. Seat Strength EC 2005/39	35. Wash / Wipe. EC 94/68	23. Direction indicator lamps EC 1999/15	04. Rear Registration Plate EC 70/222
39. Fuel Consumption EC 2004/3	14. Protective Steering EC 91/662	13. Antitheft EC 95/56	24. Rear registration plate lamp EC 97/31	18. Statutory Plates EC 78/507
40. Engine Power EC1999/99	03. Fuel Tank EC 2006/20	32. Forward Vision EC 90/630	25. Headlamps (including bulbs) EC 1999/17	36. Heating systems 2004/78
41. Diesel Emissions 2006/81/EC	12. Interior Fittings EC 2000/4	17. Speedometer and Reverse Gear EC 97/39	26. Front fog lamps EC 1999/18	44. Masses and Dimensions EC 95/48
	31. Safety Belts EC 2005/40	08. Rear Visibility EC 2005/27	28. Rear fog lamps EC 1999/14	50. Mechanical Couplings EC 94/20
	06. Door Latches and hinges EC 2001/31	46. Tyres EC 2005/11	29. Reversing Lamps EC 97/32	
	38. Head restraints EC 78/932	34. Defrost / Demist EC 78/317	30. Parking Lamps EC 1999/16	
	45. Safety glazing EC 2001/92	09. Braking EC 2002/78		
	53. Frontal impact EC 1999/98	20. Lighting Installation EC 97/28		
	54. Side impact EC 96/27	33. Identification of Controls EC 94/53		
		37. Wheel Guards EC 94/78		

For all items MIRA can assist, either directly or through sub-contracting, with the development through to production for a vehicle manufacturer.

Engineering

MIRA's engineering team can offer a complete design and development service to assist in the development of a vehicle to comply with the directive.

Certification and Homologation

For final type approval testing, MIRA Certification and Homologation, an independent section of MIRA Ltd, can offer project management of the homologation process at any stage be it in terms of liaison with the appropriate Type Approval Body (for example VCA, RDW, KBA), organising the testing, formulating the paperwork and preparing the final certification documentation for either whole vehicles or component level.

As an internationally-recognised test & development centre with an independent Technical Service for certification and homologation, MIRA can make the journey from concept to market a simpler and more cost-effective process.

MIRA can put your product on the road !

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