International Standard ISO 3808/2

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Road vehicles — Unscreened high-tension ignition cables — Part 2 : Cable classes, types, applicable tests and special requirements

Véhicules routiers — Câbles d'allumage haute tension non blindés — Partie 2 : Classes de câble, types, essais applicables et spécifications particulières

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3808/2 was developed by Technical Committee ISO/TC 22, *Road vehicles*, and was circulated to the member bodies in June 1979.

It has been approved by the member bodies of the following countries :

Australia	Germany, F.R.	Romania
Austria	Italy	Spain
Belgium	Korea, Dem. P. Rep. of	Sweden
Chile	Korea, Rep. of	Switzerland
China	Mexico	United Kingdom
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France	Poland	USSR

The member body of the following country expressed disapproval of the document on technical grounds :

Japan

Printed in Switzerland

Road vehicles — Unscreened high-tension ignition cables — Part 2 : Cable classes, types, applicable tests and special requirements

1 Introduction

The present International Standard specifies cable classes, types, applicable tests and special requirements for unscreened high-tension ignition cables.

The general requirements and test methods are specified in ISO 3808/1.

2 Scope and field of application

This International Standard applies to cable classes, types, applicable tests and special requirements for unscreened high-tension ignition cables used in automotive vehicle applications.

3 Reference

ISO 3808/1, *Unscreened high-tension ignition cables — Dimensions, general requirements and test methods.*

4 Applicable tests and special requirements

If tested according to the test methods specified in ISO 3808/1, the cables shall comply with the requirements specified in the following table.

Table

Test \ Class	A				B				C				D				E				F				Remarks
Type[1]	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
5.1 Test for insulation faults of the total delivery	to be applied		not to be applied		to be applied		not to be applied		to be applied		not to be applied		to be applied		not to be applied		to be applied		not to be applied		to be applied		not to be applied		
5.2 30 min test voltage and breakdown voltage	to be applied				to be applied				to be applied				to be applied				to be applied				to be applied				
5.3 Capacity																									
cable Ø 5 mm (23 ± 2) °C / (70 ± 2) °C	The capacity values shall be agreed between the engine and the cable manufacturers.																								
cable Ø 7 mm (23 ± 2) °C / (70 ± 2) °C																									
cable Ø 8 mm (23 ± 2) °C / (70 ± 2) °C																									
5.4 Resistance to corona effect																									
cable Ø 5 mm	12 kV (r.m.s.), 50 or 60 Hz																								
cable Ø 7 mm	15 kV (r.m.s.), 50 or 60 Hz																								
cable Ø 8 mm	18 kV (r.m.s.), 50 or 60 Hz																								
5.5 Pressure test at high temperature																									
Test temperature	(70 ± 2) °C				(105 ± 2) °C				(120 ± 2) °C				–				–				–				
5.6 Thermal overload test																									
Test temperature	(105 ± 2) °C				(120 ± 2) °C				(155 ± 2) °C				(180 ± 2) °C				(220 ± 3) °C				(250 ± 3) °C				
Maximum allowable change of resistance	–	–	+50% −30%	–	–	–	+50% −30%	–	–	–	+50% −30%	–	–	–	+50% −30%	–	–	–	+50% −30%	–	–	–	+50% −30%	–	
5.7 Shrinkage by heat																									
Test temperature	(155 ± 2) °C				(155 ± 2) °C				–				–				–				–				
Maximum length shrinkage	2 %				2 %				–				–				–				–				
5.8 Resistance to flame propagation																									
Exposure time	30 s				30 s				15 s				15 s				15 s				15 s				
Extinction time	30 s				30 s				30 s				70 s				70 s				70 s				
5.9 Flexibility at low temperature																									
Test temperature	(−20 ± 3) °C				(−20 ± 3) °C				(−30 ± 3) °C				(−30 ± 3) °C				(− 40 ± 3) °C				(−50 ± 3) °C				

1) See below the end of the table.

5.10	Mechanical tensile test		not to be applied			not to be applied			not to be applied			not to be applied			not to be applied			not to be applied				
	weight to be applied	for cable ϕ 5 mm		180 N	not to be applied		180 N	not to be applied		180 N	not to be applied		180 N	not to be applied		180 N	not to be applied		180 N	not to be applied		
		for cable ϕ 7 mm		250 N			250 N			250 N			250 N			250 N			250 N			
		for cable ϕ 8 mm		250 N			250 N			250 N			250 N			250 N			250 N			
	Maximum allowable change of resistance			0 to +30%			0 to +30%			0 to +30%			0 to +30%			0 to +30%			0 to +30%			
	weight to be applied for interruption test	for cable ϕ 5 mm		—	—		—	—		—	—		—	—		—	—		—	—		
		for cable ϕ 7 mm		—	250 N		—	250 N		—	250 N		—	250 N		—	250 N		—	250 N		
		for cable ϕ 8 mm		—	250 N		—	250 N		—	250 N		—	250 N		—	250 N		—	250 N		
5.11	Stripping of insulation		see ISO 3808/1																				
5.12	Resistance to oil	Maximum alteration	+ 4 % − 1 %			+ 4 % − 1 %			+ 4 % − 1 %			+ 10 %			+ 10 %			+ 10 %				
5.13	Resistance to fuel	Maximum alteration	6 %			6 %			6 %			10 %			15 %			15 %				
5.14	Accelerated life test		to be applied			to be applied			to be applied			to be applied			to be applied			to be applied				
5.14.2.1	Resistance to salt water		see ISO 3808/1																				
5.14.2.2	Resistance to oil		see ISO 3808/1																				
5.14.2.3	Resistance to fuel		see ISO 3808/1																				
5.14.2.4	Heat ageing test	Test temperature	(90 ± 2) °C			(105 ± 2) °C			(120 ± 2) °C			(155 ± 2) °C			(180 ± 2) °C			(220 ± 3) °C				
5.14.2.5	Low temperature test	Test temperature	(− 10 ± 3) °C			(− 15 ± 3) °C			(− 20 ± 3) °C			(− 20 ± 3) °C			(− 30 ± 3) °C			(40 ± 3) °C				

Types 1 : Cables with copper conductor
Types 2 : Cables with steel conductor
Types 3 : Resistive cables
Types 4 : Reactive cables

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