

International Standard



6809

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Rubber compounding ingredients — Carbon black — Standard reference blacks

Ingédients de mélange du caoutchouc — Noir de carbone — Noirs de référence

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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 6809 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*, and was circulated to the member bodies in June 1982.

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

Australia	Hungary	Spain
Austria	India	Sri Lanka
Belgium	Indonesia	Sweden
Brazil	Italy	Thailand
Canada	Korea, Rep. of	Turkey
China	Netherlands	United Kingdom
Czechoslovakia	New Zealand	USA
Egypt, Arab Rep. of	Poland	USSR
France	Romania	
Germany, F. R.	South Africa, Rep. of	

No member body expressed disapproval of the document.

Rubber compounding ingredients — Carbon black — Standard reference blacks

1 Scope and field of application

This International Standard specifies the agreed values for the properties of standard reference blacks to be used in conjunction with methods of test for carbon black.

2 References

ISO 1304, *Carbon black for use in the rubber industry — Determination of iodine adsorption number.*

ISO 4652, *Rubber compounding ingredients — Carbon black — Determination of specific surface area — Nitrogen adsorption methods.*

ISO 4656/1, *Carbon black for use in the rubber industry — Determination of dibutylphthalate absorption number — Part 1 : Method using absorptometer.*

ISO 4656/2, *Rubber compounding ingredients — Carbon black — Determination of dibutylphthalate absorption number — Part 2 : Method using plastograph or plasticorder.*

ISO 5435, *Rubber compounding ingredients — Carbon black — Determination of tinting strength.*

ISO 6810, *Rubber compounding ingredients — Carbon black — Determination of specific surface area — Surfactant adsorption methods.¹⁾*

ISO 6894, *Rubber compounding ingredients — Carbon black — Determination of dibutylphthalate absorption number of a compressed sample.¹⁾*

3 Agreed values

The agreed values for the properties of standard reference blacks are given in the table.

Table — Agreed values for properties of standard reference blacks dried at 125 °C

Property	Unit	A-3*	B-3*	C-3*	D-3*	ITRB**	IRB No. 5***	Method of test
Iodine adsorption number	mg/g	23,2 ± 1	80,5 ± 1	112,7 ± 1	33,4 ± 1	—	80,5 ± 1	ISO 1304
C.T.A.B. surface area	m ² /g	24,2 ± 1	79,9 ± 1	113 ± 1	40,6 ± 1	83	—	ISO 6810
Nitrogen surface area	m ² /g	23,6 ± 1	79,5 ± 1	119,8 ± 1	37,9 ± 1	—	76,5†	ISO 4652
Dibutylphthalate absorption of compressed sample	cm ³ /100 g	58,9 ± 1	89,2 ± 1	102,0 ± 1	89,0 ± 1	—	89,6 ± 1	ISO 6894
Dibutylphthalate absorption — mass used	cm ³ /100 g g	67,0 ± 1 25	101,2 ± 1 20	119,8 ± 1 20	129,8 ± 1 †† 20		102,1 ± 1 20	ISO 4656/1 or ISO 4656/2
Tinting strength	% ITRB	42,4 ± 1,5	101,2 ± 1,5	116,0 ± 1,5	53,3 ± 1,5	100	101,5 ± 1,5	ISO 5435
Type	—	N 762	N 330	N 234	N 683	—	N 330	—

* Samples of A-3, B-3, C-3 and D-3 are available from Forcoven Products Inc., PO Box 1556, Humble, Texas 77338, USA

** ITRB is available from Ashland Chemical Co., Columbus, Ohio 43216, USA

*** Standard reference black IRB No. 5 is available from Columbian Chemicals Co., 3200 W Market Street, Akron, Ohio 44313, USA

† Results obtained by classical B.E.T. method.

†† This value may be difficult to obtain.

1) At present at the stage of draft.