GOVERNMENT OF INDIA: MINISTRY OF RAILWAYS
RESEARCH DESIGNS & STANDARDS ORGANISATION
MINISTRY OF RAILWAYS
MANAK NAGAR, LUCKNOW – 226 011.

EXPRESSION OF INTEREST

EOI No. CARR-SS-05-2014

RDSO is the sole Research Design and Standards Organization of Indian Railways, dedicated to create & adopt technology solutions for Indian Railways. Carriage Directorate of RDSO is dealing with design and development of coach items.

In order to cover the gaps of interior panels in coaches, use of SS Moulding, MS moulding or Aluminium Moulding are used in various shapes like Flat, Angle, Channel, Z-section etc. in running length. RDSO is interested in developing Specification for an alternate to these mouldings in the form of composite molded section such as Polyvinyl Expansion moulding for Indian Railways coaches. The functional requirements of the desired specification and Proforma for response have been enclosed.

Firms/Organizations who have enough experience and capabilities in the field and have ISO certificate and are interested in developing and supply of said item are requested to see the details on the RDSO website http://www.rdso.indianrailways.gov.in → Tender → EOI or contact Director/SS/Carriage/RDSO/Lucknow during office hours on any working day for further details.

The interested firms/organizations are requested to submit details in the prescribed format attached herewith on or before 31-01-2015 to the address mentioned below.

Contact Address:

Director (SS),
Room No: 14, Carriage Directorate, Annexe-I Building,
Research Designs & Standards Organization (RDSO), Ministry of Railways,
Manak Nagar, Lucknow – 226 011, Uttar Pradesh, India
BSNL Ph. No. 0522 – 2465708, BSNL Fax No. 0522 – 2450679, 0522 – 2465708
Email address: dirssrdso@gmail.com

Enclosure: 1. Proforma for response
2. Functional Requirements.

FORMAT FOR LETTER OF RESPONSE

Respondents Ref No.:

Date:

Executive Director (Carriage)
Room No: 2
Carriage Directorate, Annexe I Building
Research Designs & Standards Organization
Ministry of Railways
Manak Nagar
Lucknow – 226 011
Uttar Pradesh, India

Dear Sir,

Subject: RESPONSE TO – EOI FOR PARTICIPATION _____

1. We, the undersigned, offer the following information in response to the Expression of Interest sought by you vide your Notification No._____, dated _____.

2. We are duly authorized to represent and act on behalf of _____ (herein after the "respondent")

3. We have examined and have no reservations to the EOI Document including Addenda No(s)_____.

4. We are attaching with this letter, the copies of original documents defining: -

4.1 The Respondent's legal status;
4.2 Its principal place of business;
4.3 Its place of incorporation (if respondents are corporations); or its place of registration (if respondents are cooperative institutions, partnerships or individually owned firms);
4.4 Self-certified financial statements of Last three years, clearly indicating the financial turn overand net worth.
4.5 Copies of any market research, business studies, feasibility reports and the like sponsored bythe respondent, relevant to the project under consideration

5. We shall assist MoR and/or its authorized representatives to obtain further clarification from us, if needed.

5.1 RDSO and/or its authorized representatives may contact the following nodal persons for further information on any aspects of the Response:

S. No.	Contact Name	Address	Telephone	EMail
1				
2				

6. This application is made in the full understanding that:

6.1 Information furnished in response to EOI shall be used confidentially by RDSO for the purpose of development of the specification.

6.2 RDSO reserves the right to reject or accept any or all applications, cancel the EOI and subsequent bidding process without any obligation to inform the respondent about the grounds of same.

6.3 We confirm that we are interested in participating in development of the specification.

7. We certify that our turnover and net worth in the last three years is as under:

Financial Year	Turnover	Net worth

8. In response to the EOI we hereby submit the following additional details annexed to this application.

8.1 Clause wise compliance to RDSO Specification ----- Not applicable…
8.2 Details of various items being manufactured/consultancy undertaken.
8.3 Details of customer(s) and supplies made in the field of item under EOI.
8.4 Experience and expertise for the items proposed in EOI.
8.5 Details of man-power with their qualification and experience.
8.6 Details of M&P and testing equipments required for manufacturing & testing of the product under EOI.
8.7 Quality Control Requirements for the product.
8.8 Detailed proposal for items proposed in EOI including alternative proposal, if any.
8.9 Details of Intellectual Property Rights (IPR) held, patent filed/held and MOU/agreement signed.
8.10 Details of ISO certification

9. The following undertakings are hereby given:

9.1. In regard to matters relating to the security and integrity of the country, no charge sheet has been filed by an agency of the Government / conviction by a Court of Law for an offence committed by the ----------(name of the entity)or by any sister concern of the ----------(name of the entity) would result in disqualification.

9.2. In regard to matters other than the security and integrity of the country, ---------- (name of the entity) has not been convicted by a Court of Law or indicted / passed any adverse order by a regulatory authority against it or it's against any sister concern which relates to a grave offence, or would constitute disqualification. Grave offence is defined to be of such a nature that it outrages the moral sense of the community.

10. The undersigned declare that the statements made and the information provided in the duly completed application are complete, true, and correct in every detail. We also understand that in the event of any information furnished by us being found later on to be incorrect or any material information having been suppressed, RDSO may delete our name from the list of qualified Respondents. We further understand that RDSO will give first preference to the applicants considered relevant for the purpose.

11. Our response is valid till (date in figures and words):_____

Yours sincerely,

(Sign)

NAME
In the Capacity of
Duly authorized to sign the
Response for and on behalf of
Date

FUNCTIONAL REQUIREMENTS OF COMPOSITE MOULDING FOR FLAT, ANGLE, BASE, CHANNEL USED IN INDIAN RAILWAYS COACHES.

1.0 FUNCTIONAL REQUIREMENTS:

The composite moulding should have following functional requirements: -

1. Fire retardant properties as per existing RDSO standards or as per EN 45545.
2. Injury free and no sharp edges or sharp corners etc.
3. Ease in work and should not result skin itching etc. on body of workers while drilling hole in it.
4. No painting to be required.
5. Normally it should not require replacement and should go alongwith panel life minimum on which it is to be fitted.
6. It should properly press and fit on the panel joints so that there is no visible unpleasant gap length.
7. It should have flexibility to take contour of panel where needed.
8. It should be aesthetically pleasant.

These moulding should work satisfactorily under the following operating conditions and properties of composite moulding for IR coaches:

1.1 COACH DYNAMICS:

Polyvinyl Expansion moulding for Flat, Angle, Base, Channel used in IR coaches should provide adequate strength during the vibrations and shocks normally encountered in service as indicated below:

i)	Maximum vertical acceleration	1.0g
ii)	Maximum longitudinal acceleration	3.0g
iii)	Maximum transverse acceleration	2.0g

The vibrations are of sine wave form and the frequency vibration is between 1 Hz to 50 Hz.

The amplitude 'a' expressed in millimeters is given as a function of f, by equations

$a = 25/f$ for values of f from 1 Hz to 10 Hz.

$a = 250/f^2$ for values of f exceeding 10Hz and up to 50 Hz.

1.2 In the direction corresponding to the longitudinal movement of the vehicle, the Flooring material is subjected for 2 min. to 50 Hz Vibrations of such a value that the maximum acceleration is equal to 3g.

1.3 COACH-BODY DISPLACEMENT ENCOUNTERED UNDER DYNAMIC CONDITIONS.

i)	Vertically-	±100 mm
ii)	laterally -	±55 mm
iii)	longitudinally-	±10 mm
iv)	bogie rotation about center pivot-	$\pm 4^0$

1.4 Ambient Conditions

(i) Ambient temperature : -4° C to 50° C
Altitude : Sea level to 2500m
Max. temperature under Sun : 70° C
Relative humidity : 40% to 95%

(ii) The rainfall is fairly heavy.
(iii) During dry weather, the atmosphere is likely to be dusty.
(iv) Temperature variations can be quite high in the same journey or short period of time.
(v) Coaches operate in coastal areas with continued exposure to salt laden air.

1.5 Coach Inside Condition:

Inside condition of the coach may consider as under:

The ambient conditions may be similar as mentioned under para 1.4 above for Non-air-conditioned coaches. However in summer day the value of upper range of the temperature may go up. For AC coaches temperature may be maintained.

2.0 Properties required for composite moulding.

Test shall be conducted from the finished product for the properties indicated to the following requirements:

S. No	Properties	Required value	Test Method
1	Sp. gravity		
2	Hardness (Shore D)		
3	Flexural Strength (MPa)		
4	Tensile strength (MPa) Min.		
5	Breaking strength (Kg) Min.		
6	Drop impact test		
7	Flexibility		
8	Water absorption (%) Max.		
9	Ash content (%)		
10	Resistance to dry heat at 180°C		
	Appearance		
	Gloss		
	Others		
11	Dimensional stability at 20°C		
	Machine Direction		
	Right angle to machine direction		
12	Resistance to staining		

13	Resistance to colour change (Blue wool standard No.)		
	In xenon arc light(Minimum) **or** In enclosed carbon arc light(Minimum)		
14	Surface finish (by 60^{o} specular gloss meter) Gloss value		
15	Resistance to spread of flame		
16	Deterioration of visibility due to smoke		
17	Limiting Oxygen Index – Minimum		
18	Toxicity		
19	Heat Release Rate (MARHE i.e. Maximum Average Rate of Heat Emission in KW/m2) as specified in EN 45545-2:2013		

3.0 If any other parameter needs to be evaluated may also be mentioned. Also the cost implication of the material may be submitted.