to Letter no. CT/EF/Policy/Global EOI/HVN dated 00.04.2025 REASONED DOCUMENT IN RESPONSE TO UPLOADED DRAFT IRS SPECIFICATION FOR GLASS FILLED NYLON-66 & HIGH VISCOUS

Para No. Existing provision in Specification of GFN-66/HVN-66 Liner Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red) Suggestions by approved vendors	w material for curement of the been restricted ry raw material
Document Title: GLASS FILLED NYLON-66 & HIGH VISCOUS NYLON-66 INSULATING LINERS SERIAL NO. T - 44 - 2023 (Third Revision) 4.0 4.1.2 Material for HVN Liner: The material used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in the relevant drawing. Regenerated / the relevant drawing in th	been restricted ry raw material
Document Title: GLASS FILLED NYLON-66 & HIGH VISCOUS NYLON-66 INSULATING LINERS SERIAL NO. T - 44 - 2023 (Third Revision) 4.0 4.1.2 Material for HVN Liner: The material used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the mentioned in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / their manufacture of Insulating Liners shall be & Co., Mumbai: ii) Primary raw material has through the Primary manufacturer who facility of polymonal in the relevant drawing. Regenerated / should have facility of polymonal in the relevant drawing. Regenerated / their are reconstituted.	been restricted ry raw material
Document Title: GLASS FILLED NYLON-66 & HIGH VISCOUS NYLON-66 INSULATING LINERS SERIAL NO. T - 44 - 2023 (Third Revision) 4.0 4.1.2 Material for HVN Liner: The material used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the mentioned in the relevant drawing. Regenerated / should have facility of polym	been restricted ry raw material
4.0 4.1.2 Material for HVN Liner: The material used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the manufacture of Insulating Liners shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / should have facility of polym	been restricted ry raw material
4.1.2 Material for HVN Liner: The material used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the manufacture of Insulating Liners shall be as specified in RAL colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / should have facility of polym	been restricted ry raw material
manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the manufacture of Insulating Liners shall be "High Viscosity Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in this clause or otherwise mentioned in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / should have facility of polym	been restricted ry raw material
Nylon 66". The Colour scheme shall be as specified in RAL colour standard mentioned in this clause or otherwise mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / should have facility of polym	been restricted ry raw material
colour standard mentioned in this clause or otherwise mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / should have facility of polym	ry raw material
mentioned in the relevant drawing. Regenerated / reconstituted material shall not be used for the in the relevant drawing. Regenerated / in the relevant drawing. Regenerated / should have facility of polyments.	
reconstituted material shall not be used for the in the relevant drawing. Regenerated / should have facility of polym	to have the l
design of the manufacture of the	
manufacture of liners reconstituted material shall not be used for the their own to manufacture HV	VN 66 material
Individual of finers.	
facility materials like He	
This clause Diamine (HMD) of the manufacturer of HVN liner shall have a valid tie-up in	
the form of a written Memorandum of Understanding The manufacturer of HVN liner shall have a valid may be Nitrile (AND).	1
(MOU)/Contract with Primary raw material manufacturer tie-up in the form of a written Memorandum of exempted for	
for "Nylon 66 (HVN-66)", covering raw material supplies Understanding (MOU)/Contract with Primary raw an Indian After adequate	
and technical support including quality control. The material manufacturer for "Nylon 66 (HVN-66)", manufacturer about the raw	
manufacturer of the HVN insulating liners shall only mould covering raw material supplies and technical who wants to clause may be revenue.	iewed.
the liners out of the material supplied to them by the support including quality control. The setup SSP	
primary manufacturer. manufacturer of the HVN insulating liners shall plant in India. Further, 'Primary	
only mould the liners out of the material supplied He may be Manufacturer' ha	
Note: to them by the primary manufacturer. allowed to put Indian Railways	
i. Primary raw material manufacturer can have a valid Note: up a SSP plant future localization	
MOU/Contract with one or more manufacturers of i. Primary raw material manufacturer can have if he has valid PA-66 resin manufacturer can have if he has valid PA-66 resin manufacturers.	
d valid Web/ Contract With one of Thore	'Make-in-India'
ii. A Primary raw material manufacturer should manufacturers of HVN liners or vice versa supplies of policy.	
mandatorily have facility of polymerization plant to ii. A Primary raw material manufacturer base polymer Hence, suggest	ion is not
manufacture HVN 66 material starting from the should mandatorily have facility of 6.6.	
precursor materials like Hexa Methylene Diamine polymerization plant to manufacture HVN This clause	
(HMD) and / or Adipo Nitrile (ADN) 66 material starting from the precursor restricts any	
materials like Hexa Methylene Diamine manufacturer	
The credentials of primary raw material manufacturer (HMD) and / or Adipo Nitrile (ADN)	
should be clearly mentioned in the MoU/Contract primary	
and following should include. The credentials of primary raw material manufacturer HVN liner is of	onen for any
a) Declaration that they are the primary raw manufacturer should be clearly mentioned to put up a SSP interested vendo	
material manufacture as defined above in the MoU/Contract and following should plant in India. supply of HVN lin	
b) Grade of raw material being supplied along with include. SSP plant is	
its data sheet. a) Declaration that they are the primary the first step in It is true that	the RDSO
	developmental

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	RD50 5 Remarks
110.	Ellici	00/11 v 1v-00 Einer (iviounication shown in reu)	by approved	
			vendors	
		above	manufacturing	vendors of GFN liner have
		b) Grade of raw material being supplied	in India to	experience of molding of
		along with its data sheet	promote"	NYLON-66. But HVN-66 is
		diong with its data sheet	Make in India"	very typical material with
		iii) Self-declaration by 'Primary Raw Material	concept. We	respect to molding parameters,
		Manufacturer of their PA-66 (Nylon 66)	can save our	shrinkage ration, design of screw
		polymerization capacity and polymerization plant's	valuable	barrel, pressure in the barrel etc.
		location.	foreign	
		location.	currency by	For a new vendor, it will be
		iv) 'Primary Raw Material Manufacturer' must	increasing	helpful to have a technical
		notify about available plant capacity to produce	viscosity of	partner or distributor, who has
		HVN (High Viscosity Nylon) PA-66 resin meeting	base polymer	presence in India, to deliver
		raw material properties mentioned in Table 1B	in India and	technical assistance.
		I was a substant proportion in success in success in	doing more	
		v) 'Primary Raw Material Manufacturer' should	value addition	Hence, suggestion is not
		share information about their technical partner or	in India.	accepted.
		distributor, who have presence in India, to deliver	We can	
		technical assistance and assist on sustainable	promote "make	
		suppliability of raw material to Indian Railway's	in India"	
		approved vendors for HVN-66 Insulating liners.	concept like	
			this.	
		vi) 'Primary Raw Material Manufacturer' should		
		apprise Indian Railways about their future	(v)Primary	
		localization plan of HVN PA-66 resin	raw material	
		manufacturing in India under 'Make-in-India'	manufacturer/d	
		policy.	istributor to	
			have an office	
		vii) Raw material manufacturer shall submit half	in India	
		yearly supply statement in signed hard copy and in	There have	
		excel format with following information to RDSO	been extensive field trials	
		or Zonal Railways.	field trials done on HVN	
			and product is	
		i) Buyer's name	well proven in	
		ii) Quantity purchased	all weather	
		iii) Buyer plant location	conditions.	
		iv) Buyer's PO number	Bulk supplies	
		v) Supplier's invoice date with invoice	have started	
		number	and results are	
		vi) Supplier warehouse location	satisfactory.	
			Hence, we feel	
		viii) HVN Liner manufacturer shall submit half		

Para Existing provision in Specification of GFN-66/HVN-66									_ <u>*</u>	HVN dated 00.04.2025
						ied provision in			Comments	RDSO's Remarks
No.	Liner				66/HV	N-66 Liner (M	odificatio	on shown in red)	/Suggestions	
									by approved	
					**********	Darry Matarial	murahaga	and consumption	that raw	
								nd in excel format	that raw material	
								RDSO or Zonal	suppliers need	
					Railwa		iation to	RD50 of Zonai	for technical	
					10011110	.,, :			support is not	
					i)	Opening Bala	nce of Ra	w Material	required so	
					ii)			th PO Number and	much at the	
						date			moment for	
					iii) Source of	raw ma	aterial with plant	product design.	
						location			Technical	
					iv			lier's invoice date	specifications	
						with invoice i			have been well	
					v)		ial Supp	olier's warehouse	framed and vendors are	
						location	D 1	e a tra	vendors are better qualified	
					V1	, -	to talk on the			
					371	during the Ha		ners supplied with	product	
					VI	drawing num		iers supplied with	improvement	
	During ir	spection of HVN	Liner, the s	upplier should submit,	vi	ii) Closing Balar		w Material	as injection	
	the invoi	ce alongwith e-w	ay bill in su	ipport of procurement	V1	ii) Closing Bulai	ice of ica	Wiviaterial	molding is the	
	of raw n	naterial of partice	ular grade	from the primary raw	During	inspection of	HVN Li	ner, the supplier	forte of the	
				whom the written	_	•		g with e-way bill in	vendor and not	
	Memora	ndum of Underst	anding (MC	DU)/Contract has been	1		-	raw material of	so much of	
	signed.					•		nary raw material	raw material	
	l -	ve RAL color shou	uld be colo	r-fast coloured master	manuf	acturer with	whom	the written	supplier. They generally give	
	batches.		T =	T 1	Memo	randum of Und	erstandin	g (MOU)/Contract	guidance on	
	S No.	Color	RAL	Liner Drg. No.	has be	en signed.			processing	
	1	Brown Red	3011	RT-3702	Respec	tive RAL col	or shou	ld be color-fast	parameters	
	2	Brown Red	3011	RT-3706	I .	ed master batch		I ' D N.	initially and	
	3	Mint Green	6029	RT-3707	S No.	Color	RAL	Liner Drg. No.	then vendor has to mass	
	4	Cobalt Blue	5013	RT-3708	1	Brown Red	3011	RT-3702	produce	
	5	Brown Red-	3011	RT-6937	2	Brown Red	3011	RT-3706	keeping in	
	6	Mint Green	6029	RT-6938	3	Mint Green	6029	RT-3707	check quality parameters a t	
	7	Cobalt Blue	5013	RT-6939	4	Cobalt Blue	5013	RT-3708	all times.	
	8	Brown Red	3011	RT-8751	5	Brown Red-	3011	RT-6937	There are a	
	9	Mint Green	6029	RT-8752	6	Mint Green	6029	RT-6938	handful of	
	10	Cobalt Blue	5013	RT-8753	7	Cobalt Blue	5013	RT-6939	primary raw material	
			<u> </u>							

Dana	Existing provision in Specification of GFN-66/HVN-66	Madia	ad nuovision i				DDSO's Demanks
Para	, or		ied provision in			Comments	RDSO's Remarks
No.	Liner	00/H V	N-66 Liner (M	loamcatio	on shown in red)	/Suggestions	
						by approved	
			Γ	T	T = =	vendors	
		8	Brown Red	3011	RT-8751	manufacturers	
		9	Mint Green	6029	RT-8752	all across the	
		10	Cobalt Blue	5013	RT-8753	world. Even in	
			Coount Blue	1 3 0 1 3	161 0733	this scenario,	
						there are only	
						a handful of	
						manufacturers	
						who would	This aspect is all ready been
						have office in	discussed in various meetings.
						India. When	
						material is	It was decided to make different
						completely	colour liners based on the
						imported, we	discussions.
						do not see any	
						need for him to	Hence suggestion is not
						keep any office	accepted.
						here. This will	
						only increase	
						the cost and	
						doesn't help in	
						quality aspect	
						at all.	
						Technical team	
						of the primary	
						manufacturer	
						should be	
						available over	
						phone and	
						video	
						conference for	
						any technical	
						support	No comments.
						required to the	
						vendor or	
						Railways.	
						Moreover	
						vendor needs	
						to have a	
						complete setup	
						including	
						testing and	
						resung and	

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	RD50 5 Remarks
110.		oo/11 v 1 v oo Emer (Mounteacton shown in rea)	by approved	
			vendors	
			technical	
			support as and	
			when required	
			by the	
			Railways. Any	
			stray case of	
			failure may be	
			evaluated on	This aspect is already covered
			case-to-case	in the modified para.
			basis.	in the mounted paras
			Any such	
			clause will	
			restrict the	
			number of	
			options	
			available to the	
			vendors and	This aspect is already covered
			will affect	in the modified para.
			competitivenes	in the mounted para.
			s of the	
			product. We	
			fear there may	
			be collusion	
			amongst	
			handful of	
			suppliers and	
			vendors could	
			be arm twisted	This is not needed.
			thereby	Hence not accepted.
			affecting	Tience not accepted.
			supplies and	
			also prices to	
			Indian	
			Railways.	
			Hence, we feel	
			there is no	
			need for any	
			office in India.	
			Also this is	
			against the	
			basic principle	
		1	Lousic brilleible	l .

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			of "open	
			market" and	
			"fair ground"	
			for all	
			manufacturers.	
			We strongly	
			oppose so	
			many clauses	
			as this would	
			only drive	
			away potential	
			raw material	
			manufacturers	
			away from	
			Indian market	
			who do not	
			have any	
			office/	
			distributor in	
			India.	
			Various RAL	
			color shades:	
			We suggest	
			use of natural	
			material itself	
			and not adding	
			any color for	
			visual	
			segregation.	
			Masterbatch is	
			not approved	
			by RDSO and	
			there could be	
			some element	
			of doubt here.	
			We suggest for	
			color	
			separation, we	
			may print lot	
			nos. with	
			different	

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	RD50 5 Remarks
110.	Linci	00/11 v 10-00 Emer (Wouthcation shown in red)	by approved	
			vendors	
			colors. This	
			should do	
			away any RAL	
			color test and	
			any	
			subjectivity	
			during bulk	
			production.	
			l Landerson	
			2.0 M/s	
			Polyset,	
			Mumbai:	
			4.1.2	
			ii) Accepted	
			iii) Accepted	
			iv) Accepted	
			v) Accepted	
			vi) Accepted	
			vii) Accepted	
			viii) Accepted	
			3.0 M/s	
			Surlon India	
			Ltd.,	
			Ghaziabad:	
			Self-	
			declaration by	
			'Primary Raw	
			Material	
			Manufacturer	
			of their High	
			viscous PA-66	
			(Nylon 66)	
			polymerization	
			capacity and	
			polymerization	
			plant's	
			location with	
			annual	
			capacity for	
			Production of	
			HVPA-66	

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			(Nylon-66).	
			3.0 M/s	
			Ascend	
			Performance	
			Materials	
			India Pvt.	
			Ltd., Tamil	
			Nadu:	
			(i) Primary Raw Materials	
			Manufacturer	
			must provide proof of	
			operating assets and	
			assets and available	
			capacity to	
			produce PA66	
			polymer, HVN	
			(solid-stated	
			PA66	
			polymer), and	
			HMDA (Hexa	
			Methylene	
			Diamine).	
			(ii) Primary	
			Raw Materials	
			Manufacturer	
			must also	
			provide proof	
			of operating	
			assets and	
			available	
			capacity to	
			produce ADN	
			(Adiponitrile –	
			key precursor	
			to make	
			HMDA), or a	
			secured	

Para No.	Existing provision in Specification of GFN-66/HVN-66 Liner	Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red)	Comments /Suggestions	RDSO's Remarks
110.	Line	00/11 v N-00 Line! (Wiodification shown in Fed)	by approved vendors	
			contract to procure the same to feed the abovementioned HMDA unit. (iii) Primary Raw Materials Manufacturer must provide proof of sales history in similar application in railway systems around the	

	ra Existing provision in Specification of GFN-66/HVN-66 Modified provision in Specification of GFN-											
Para	Exis	ting provision	in Speci	fication of GFN	N-66/HVN-66						Comments	RDSO's Remarks
No.							/Suggestions					
											by approved	
											vendors	
	4.1.4	The physical	propertie	s of HVN-66 n	naterial used for	4.1.4	The physic	cal prop	erties of HVN	I-66 material	1. M/s Sheth	
	4.1.4 The physical properties of HVN-66 material used for the manufacture of nylon mouldings shall conform to the								e of nylon mo		& Co.,	The comments of the firm have
									nents given ag		Mumbai:	been examined and Para has
					e-1B refer to the				ole 1B. Other		4.1.4 The	been modified.
												been mounted.
	as III	oulded test spe	cimen or	HVN-66 mater	iai.				er to the as r	nourded test	physical	
	TE A TE	I E 1D (E II	IX7NI T *				men of HV				properties of	
		BLE-1B (For H	1				LE-1B (Fo			Ι	HVN 66	
	S.	Property	Units	Acceptance	Test method	S.N	Propert	Units	Acceptanc	Test	material used	
	N			Values		0	У		e Values	method	for the	
	0			HVN Liner					HVN Liner		manufacture of	The comments of the firm have
			ļ		<u> </u>						nylon	been examined and Para has
	1.	Melting	°C	258-268	ISO 11357-	1.	Melting	°C	258-268	ISO 11357-	mouldings	been modified.
		point			3-2018		point			3-2018	shall confirm	
	1	Specific	-	1.10-1.16	DC EN ICO						to	
	2.	l '	-	1.10-1.10	BS EN ISO	2.	Specific	-	1.10-1.16	BS EN ISO	requirements	
		gravity			<u>1183-1:2019</u>		gravity			<u>1183-</u>	given against	
	3.	Ash content	%	0.5 (max)	Appendix		'			1:2019	item Sr. No.	
					IIIB	3.	Ash	%	0.5 (max)	Appendix	1,2,3 and 9	
	4.	Hardness	R	100 (min)	ASTM D-	5.	content	'	0.5 (11107)	IIIB	2.0 M/s Okay	
		Rockwell		' '	785-	\perp		_	100 (:)		Industries,	
					08(2015)	4.	Hardnes	R	100 (min)	ASTM D-	Mumbai:	
	5.	Tensile	Kg/m		ASTM D-		S			785-	Kindly add S.	
	J.			7.0/22:21			Rockwel			08(2015)		
	<u> </u>	strength	m ²	7.0(min)	638-14		<u> </u>				No. 9 of Table	
	6.	Elongation	%		-do-	5.	Tensile	Kg/		ASTM D-	1B "(for HVN	
		at break		35 (min)			strength	mm ²	7.0(min)	638-14	[iners)" -	
	7.	Dielectric	KV/m	11(min)	ASTM D-	6.	Elongati	%	, , , , , , , , , , , , , , , , , , ,	-do-	Viscosity	
		strength	m		149-20	١ ٠٠	_	~			Number of	
	_	_	 	10144					25 (m:n)		Raw Material -	
	8.	Volume	Ohm.	10 ¹⁴ (min)	BS ISO	<u> </u>	break	10:1	35 (min)		this is an	
		resistivity	Cm		<u>14309:2019</u>	7.	Dielectri	KV/	11(min)	ASTM D-	integral part of	
	9.	Viscosity	cm³/g	270 (min)	ISO 307		С	mm		149-20	the Raw	
		Number					strength				Material	
		of raw				8.	Volume	Ohm	10 ¹⁴ (min)	BS ISO	Testing and	
		material					resistivit		` ′	14309:201	cannot be	
	1		Valm	250 0 (min)	ISO:170:201		y			9	ignored.	
	1	Flexural	Kg/m	250.0 (min)	ISO:178:201	9.	Viscosit	cm ³ /	270 (min)	ISO 307	3	
	0.	Modulus	m²		0 or ASTM:	^{9.}			270 (min)	130 307		
					D 790		У	g				
	1	Flexural	Kg/m	8 (min)	As per		Number					
	1	strength	m ²		details in		of raw					
					Appendix X		material					
		l	ı	<u>I</u>	1.1	10.	Flexural	Kg/	250.0	ISO:178:20		
							1	10/			l	

D	E 1/1 1 1 0 10 11 0 CENT (CETTE C	1/	• 6• 1					HVN dated 00.04.2025
Para No	Existing provision in Specification of GFN-66/HVN-66				Specification		Comments	RDSO's Remarks
No.	Liner	00/11	VIN-00 LIII	er (Mo	dification sho	own in rea)	/Suggestions	
							by approved vendors	
			Modulu	mm²	(min)	10 or	venuors	
						ASTM: D		
						790		
		11	Flexural	Kg/	8 (min)	As per		
			strength mm ² details in					
			Strength			Appendix		
						X		
				!				
4.2	MANUFACTURING PROCESS							
	4.2.1 The glass filled nylon-66 and High viscous nylon-66	4.2.1	The glass	filled n	ylon-66 and l	High viscous	1.0 Avadh	
	liners shall be manufactured by automatic screw type				be manu		Rail Infra.	
	injection moulding machine. Raw Material must be				ection mould		Ltd.:	
	preheated in Dehumidifier Chamber (with dew point from –				preheated in 1		NA	
	20° C to -30° C). Before moulding moisture content should				it from -20° (
	not be more than 0.2%.		than 0.2%.	_	are content sl	nould not be		
		111016	man 0.276.					
	4.2.2 The GFN liner shall be conditioned by immersing in	4.2.2	The GFN	liner	shall be con	nditioned by	1.0 Avadh	Para has been modified.
	boiling water for adequate time to ensure minimum 3%				ater for adeq		Rail Infra.	
	absorption of water for GFN Liner as provided in para 7.7				sorption of wa	ater for GFN	Ltd.:	
	(iii)	Liner	as provide	d in para	ı 7.7 (iii)		NA	
	4.2.2 Markings Each system moulding shall be legible	422	Morleina	Each 1	arilan maaaldi	na aball ba	1. M/s Sheth	For alaiming the morney paried
	4.2.3 Marking: Each nylon moulding shall be legibly embossed in 3mm letters and figures with manufacturer's				nylon mouldi m letters and		& Co.,	For claiming the warranty period of HVN Liner, it is necessary to
	initials last two digits of year of manufacture and part				last two digit		Mumbai:	emboss the month of the
	number as shown in RDSO drawing.				imber and yea		Calender	manufacturing.
	name of as she will in red so arawing.				hown in RDS		should be kept	Hence the comments of the firm
		1		6	<u> </u>	<i>5</i> -	optional. We	are not accepted.
				KYL-	· < 3		may be given	_
				6			an option to	
				2	4 <i>)</i>		mark month	Calender clock is already in use
							and year of	
				8	<u>1</u> 9		manufacturer	Hence the comment of the firm
							in the format	is not accepted.
							mm/yy. 2. M/s Polyset,	
							Mumbai:	
							Accepted\	
							3.0 M/s AIL	Marking is to be done on the
							PLASTICS	horn of the liner.

Para	Existing provision in Specification of GFN-66/HVN-66	to Letter no. CT/EF/Po Modified provision in Specification of GFN-	Comments	RDSO's Remarks
				RDSO'S Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			PVT. LTD.,	Total thickness of the horn is
			Kolkata:	15mm and the edges are flited
			This	with 2R.
			requirement is	The clear space available is only
			not necessary,	11mm.
			as the arrow	Hence, the 06 to 08mm dia. For
			pin of the date	marking is kept.
			stamp may	
			shift due to	
			material	No Comments.
			pressure	
			during the	
			injection	
			molding	
			process.	
			4.0 Avadh	
			Rail Infra.	
			Ltd.:	
			8mm dia is too	
			small, dia	
			should be min.	
			10 mm and	
			required	
			specific	
			location on	
			product	
			drawing.	
			5.0 M/s	
			Surlon India	
			Ltd.,	
			Ghaziabad:	
			Each nylon	
			moulding shall	
			be legibly	

		to Letter no. CT/EF/Po	licy/Global EOI/I	HVN dated 00.04.2025
Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			embossed in	
			3mm letters	
			with part	
			number and	
			manufacturer's	
			initials. The	
			last two digits	
			of year of	
			manufacture	
			and month	
			shall appear on	
			a stamp of 6 to	
			8mm dia.	
7.0	TESTS			
	7.5 Internal cavity test:	7.5 Internal cavity test:	1. M/s Sheth	This test is for, checking of
	Five sample liners per lot shall be checked for internal	Five sample liners per lot shall be checked for	& Co.,	molding parameters and is a
	cavities. On sectioning along "y-y" shown in the PLAN of	internal cavities. On sectioning along "y-y" shown	Mumbai:	proven one.
	the liner in fig.1 Appendix-XI, no sample liner shall reveal	in the PLAN of the liner in fig.1 Appendix-XI, no	7.5 Internal	Hence, the comments of the firm
	any internal cavities when examined visually or with the	sample liner shall reveal any internal cavities when	cavity test-	are not accepted.
	help of a magnifying glass, for acceptance of the lot.	examined visually or with the help of a magnifying	Sample shall	are not accepted.
	l help of a magnifying glass, for acceptance of the lot.	glass, for acceptance of the lot.	not have any	
		glass, for acceptance of the for.		
			internal cavity	
			more than 0.2	
			mm. We may	
			put some size	
			to this	
			otherwise in	
			bulk	
			consignment it	
			may create	
			subjectivity.	
	7.7 Percent water absorption test: (for GFN Liners only)	7.7 Percent water absorption test: (for GFN	M/s AIL	Conditioning of HVN liners has
	,	Liners only)	PLASTICS	been introduced so that the stress
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		induced in the liner during the
			Kolkata:	molding gets released.
			Water	Hence, the comments of the firm
			conditioning of	is not accepted.
			HVN liners is	15 Hot accepted.
			not required.	
			'While nylon	
			conditioning	

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
110.		ovilivity of Emer (Modification Shown in real)	by approved	
			vendors	
			enhances	
			impact	
			properties and	
			elongation	
			percentage,	
			HVN material	
			inherently	
			possesses	
			superior	
			impact	
			strength and	
			elongation	
			compared to	
			conventional	
			GFN material.'	
			Boiling water	
			conditioning of	No comments
			HVN liners is	
			an unnecessary	
			energy	
			expenditure	
			and may lead	
			to hydrolysis,	
			potentially	
			reducing long	
			term strength.	
			'We request	
			the removal of	
			the	
			requirement	
			for boiling water	
			conditioning of	
			HVN liners.	
			11 VIN IIIICIS.	
			M/s Sheth &	
			Co., Mumbai:	
			we agree to	
			1% annealing	
			as it will	
			improve the	

		licy/Global EOI/I	HVN dated 00.04.2025	
Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
		,	by approved	
			vendors	
			impact	
			strength of the	
			product. It may	
			be done as	
			minimum 1 %.	G the Campain 1
	7.7 (iv) For acceptance of the lot, the percent water	7.7 (iv) For acceptance of the lot, the percent water	1. M /s	Conditioning of HVN liners has
	absorption for the three sets considered individually shall	absorption for the three sets considered	Polyset	been introduced so that the stress
	not be less than 3% for GFN liner when calculated in the	individually shall not be less than 3% for GFN	Mumbai:	induced in the liner during the
	manner given in Appendix IV.	liner and 1% for HVN liner when calculated in the	Water	molding gets released.
		manner given in Appendix IV.	absorption test	
			should not be	Percentage water absorption for
			introduced.	HVN liner shall not be less than
			1. It is difficult	1%. This value is the minimum
			to maintained	value.
			1% water	
			absorption.	After 1 to 1.5% water absorption
			This will also	in the HVN liner, dimensional
			lead into cost	changes are not accepted.
			of the product	Hence, the Para has been
			without any	modified.
			technical	
			advantage.	There is an equilibrium state in
			2. All	the nylon, where, the nylon does
			dimensions	not absorb or release moisture
			will change	from atmosphere.
			after water	
			absorption	
			process.	As above.
			3. There will	
			be evaporation	
			of water	
			depending on	As above.
			the storage of	115 400 10.
			the material at	
			Railway	
			Workshop as	
			temperature is	
			different at	
			different area	
			and humidity	

Dana	Enisting apprising in Casaification of CEN (CHIVIN)			DDSO's Demands
Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			2. M/s Surlon	
			India Ltd. ,	
			Ghaziabad:	
			We do not	
			recommend	
			this.	
			3. M/s Okay	
			Industries ,	
			Mumbai:	
			HVN Liners	
			dimensions	
			will change	
			with the	
			introduction of	
			water	
			absorption. We	
			have subjected	
			the Liners to	
			Hammer Test	
			and Cross	
			Breaking Load	
			and found the	
			results	
			satisfactory	
			without	
			annealing	
			(without water	
			absorption)	
			and found this	
			activity to be	
			redundant and	
			hence may be	
<u> </u>	7.10 Courses Danghaggs (for IIVALLingua anti-) Thurs	710 Confees Danchness (for HVM Lines - 1-)	dropped.	No comments
	7.10 Surface Roughness: (for HVN Liners only) Three	7.10 Surface Roughness: (for HVN Liners only)	1. M/s	No comments.
	sample liners per lot shall be checked for surface	Three sample liners per lot shall be checked for	Polyset,	
	roughness. For acceptance of the lot each individual value	surface roughness. For acceptance of the lot each	Mumbai:	
	on the three sample liners shall be within 0.1-0.2 Ra.	individual value on the three sample liners shall be	Accepted	
	Surface roughness shall be checked both on top and bottom	within 0.1- maximum upto 0.2 Ra. Surface	2. M/s Surlon	
	surface of liners.	roughness shall be checked both on top and bottom	India Ltd.,	
		surface of liners.	Ghaziabad:	
			Changes	

Dono	Existing provision in Specification of CEN 66/UVN 66	to Letter no. CT/EF/Po		RDSO's Remarks
Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	KDSO S Kemarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved	
			vendors	
			suggested by	
			RDSO in	
			Clause 7.10	
			are all right.	
	7.11 RAL Colour Test: (for HVN Liners only) Three	7.11 RAL Colour Test: (for HVN Liners only)	1. M/s Sheth	RAL color can be tested as per
	sample liners per lot shall be checked for RAL colour shade	Three sample liners per lot shall be checked for	& Co.,	their identical numbers. This is
	of moulded HVN Liners. For acceptance of the lot each	RAL colour shade of moulded HVN Liners. For	Mumbai:	for all vendors.
	individual RAL number of the three sample liners shall	acceptance of the lot each individual RAL number	RAL color test	
	conform with the requirement given in clause 4.1.2.	of the three sample liners shall conform with the	We may be	However, the comments of the
	. •	requirement given in clause 4.1.2.	given a delta	firm have been examined and the
			of 10 on the	table for the RAL color has been
			instrument as	modified.
			it is not a very	
			critical for	
			functioning	
			and is only for	
			differentiation	
			purpose. This	
			may not be	
			included in	
			acceptance	
			test and may	
			just be used	
			as a guiding	
			purpose.	
	New Para added	7.12 Cross bending Strength: (for HVN Liners	1. M/s Sheth	
		only) Three samples of HVN liners per lot shall be	& Co.,	
		tested in a manner as shown in Appendix-IX. For	Mumbai:	Suggestion of the firm has been
		acceptance of the lot each individual sample liner	Cross bending	examined and para has been
		should not break up to 20% deflection of span with	strength- Our	modified accordingly.
		minimum load for HVN liners defined in	primary	
		Appendix-II A.	objective is to	
			check whether	
			the product is	
			flexible and if	
			it breaks or	
			not. We may	
			define	
			minimum	
			deflection of	
			20% and not	

Para	Existing provision in Specification of GFN-66/HVN-66	to Letter no. C1/EF/Po Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.				KDSO's Remarks
NO.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
			by approved vendors	
			specify any load. Also the	
			loads	
			mentioned	
			were taken on	
			as molded	
			sample and	
			without	
			annealing. We	
			need to re	
			examine the	
			values after	
			annealing.	
			2. M/s Polyset	
			Mumbai:	
			Accepted	
			3. M/s AIL	
			PLASTICS	
			PVT. LTD.,	
			Kolkata:	
			This	
			amendment is	
			acceptable.	
			4. Avadh Rail	
			Infra. Ltd.:	
			Bending Load	
			should be as	
			per Appen. II	
			5. M/s Surlon	
			India Ltd. ,	
			Ghaziabad:	
			Changes	
			suggested by	
			RDSO in	
			Clause 7.10	
			are all right.	
	New para added	7.13 Fourier Transform Infrared Spectroscopy	1. M/s Sheth	Suggestion of the firm has been
		(FTIR Analysis/ Spectroscopy) (for HVN Liners	& Co.,	examined and para has been
		only) Page 12 of 30 Three samples of HVN liners	Mumbai:	deleted.
		per lot shall be tested for FTIR analysis method	This is an	
		uses infrared light to scan test samples and observe	expensive	

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	ied provision in Specification of GFN- Comments				
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	RDSO's Remarks			
110.	Line	oo/11 v 1v-oo Emer (woodineation shown in red)	by approved				
			vendors				
		chemical properties.	equipment and				
		enemeat properties.	leads to a cost				
			increase				
			without giving				
			any apparent				
			benefit. If				
			there is any				
			failure, we				
			may use this				
			externally to				
			do some				
			evaluation.				
			However, we				
			feel that after	As, above.			
			annealing,	AS, 000vc.			
			failure should				
			drastically				
			reduce.				
			2. M/s Polyset				
			Mumbai:				
			Accepted				
			3. M/s AIL				
			PLASTICS				
			PVT. LTD.,				
			Kolkata:				
			The				
			requirement to				
			scan test				
			samples is				
			unnecessary,	As, above.			
			as the five	110, 400 70.			
			sample liners				
			per lot are				
			already				
			inspected by				
			cutting the leg				
			section as per				
			Fig.1,				
			Appendix-Xl				
			of the IRS				
			specification.				
			specification.				

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	KDSO S Kelliai KS
110.	Line	00/11 v 14-00 Line! (Woullication shown in reu)	by approved	
			vendors	
			This method	
			effectively	
			reveals any	As, above.
			internal	713, 400 vc.
			cavities when	
			examined	
			visually or	
			with a	
			magnifying	
			glass.	
			4. Avadh Rail	
			Infra. Ltd.:	
			No need if	
			FTIR as in	
			STR already	
			specified basic	
			raw material	
			test DSC,	
			Viscosity	
			Numbers &	
			other physical	
			& performance	
			test to verify	
			and control	
			raw material	
			quality.	
			FTIR will be	
			additional	
			burden with no	
			proper uses for	
			material identification	
			5. M/s Surlon	
			India Ltd.,	
			Ghaziabad:	
			We do not	
			recommend	
			this.	
	New para added	7.14 Impact Test: Sample HVN Liners shall be	1. M/s Sheth	Suggestion of the firm has been
	Tion para audeu	tested for Impact test as per Appendix-XII. For	& Co.,	examined and para has been
		acceptance, each sample HVN liner should not	Mumbai:	modified accordingly.
		acceptance, each sample 11 viv inter should not	munipai.	mounted accordingly.

Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN-	Comments	RDSO's Remarks
No.	Liner	66/HVN-66 Liner (Modification shown in red)	/Suggestions	
		(**************************************	by approved	
			vendors	
		break or crack. Sampling shall be done as per	Please clarify	
		clause 7.6.1 (ii).	that by	
		()	breaking it	
			means	
			breaking into 2	
			or more pieces	
			or even a	
			minor crack	
			would be	
			considered as a	
			crack. There	
			might be some	
			indentation	
			due to the	
			impact and it	
			shall not be	
			mistaken as	
			crack. Please	
			clarify if 4 kg	
			is only the	
			hammer or	
			including the	
			arms weight.	
			We shall	
			manufacture	
			the structure	
			accordingly.	
			2. M /s	
			Polyset	
			Mumbai:	
			Accepted	
			3. M/s Surlon	
			India Ltd. ,	
			Ghaziabad:	
			Changes	
			suggested by	
			RDSO in	
			Clause 7.10	
			are all right.	
8.0	RE-TEST			

Para No.	Existing provision in Specification of GFN-66/HVN-66 Liner	Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red)	Comments /Suggestions by approved vendors	RDSO's Remarks
	8.3 Should any one test sample fail in dimensions, the manufacturer may reoffer the liners lot wise only once after sorting out the defectives, with written permission of the inspecting authority. The re-offered lot shall be inspected for all tests in terms of acceptance test clause 7. If the reoffered lot fails again in dimensions, entire lot shall be rejected.	8.3 Should any one test sample fail in dimensions, the manufacturer may reoffer the liners lot wise only once after sorting out the defectives, with written permission of the inspecting authority. The re-offered lot shall be inspected for all tests in terms of acceptance test clause 7. If the reoffered lot fails again in dimensions, entire lot shall be rejected.	1.0 Avadh Rail Infra. Ltd.: If any failure required double sampling as per others RDSO Specification	The existing practice has been followed for molding items. Hence not accepted.

Para No.		istin ner	g provision	in Specific	ation of GFN-	66/HVN-66					ecification (of GFN-	Comments /Suggestions by approved	RDSO's Remarks
													vendors	
APP						(IRS-T-44-						(IRS-T-44-	1.0 Avadh	No comments
ENDI	202							023)					Rail Infra.	
X-II				OSS BREA	AKING LOA	D OF GFN				ROSS BE	REAKING	LOAD OF	Ltd.:	
		NER							LINER ETHOD				NA	
			THOD	he carried	out as per IS:	1998 with the				all he car	ried out as	per IS:1998		
			ng changes:	oc carried v	out as per 15.	1990 with the				ng changes		per 15.1770		
				be tested	in a manner	as shown in						as shown in		
			lix-IX						dix-IX					
				pport points	and of loading	point shall be					points and	of loading		
		mm							shall be 1.		.a			
					ipport points, r							points, rate		
				_	and the accep given in the tal							nine and the d shall be as		
	1 010	35-U	icaking ioad	i siiaii be as	given in the tat	DIE DEIOW.			in the tabl		neaking 10a	u shan be as		
	Г	S.	Drawing	Distance	Rate of	Cross	51	VCII .	in the tabl	c ociow.				
		N	No	between	traverse of	breaking		S	Drawi	Distan	Rate of	Cross		
		o		support	jaws	load (min)			ng No	ce	traverse	breakin		
				points(x)				N		betwee	of jaws	g load		
		(1	(2)	(3)	(4)	(5)		0		n		(min)		
			DDGO/E	4.5	50 / /	2.22				suppor				
			RDSO/T- 2505	45mm	50mm/mt	360kg				points(
			RDSO/T-	45mm	50 mm/mt	420kg				x)				
			3516	4311111	30 IIIII/III	420kg		((2)	(3)	(4)	(5)		
			RDSO/T-	60mm	5 mm/mt	480kg		1				(-)		
			3702											
			DDGO/T	(0)	5 / .	2001		1	RDSO/	45mm	50mm/m	360kg		
			RDSO/T- 3706	60mm	5 mm/mt	390kg			T-2505		t			
								2	RDSO/	45mm	50	420kg		
			RDSO/T-	60mm	5 mm/mt	720kg			T-3516		mm/mt			
			3707					3	RDSO/	60mm	5 mm/mt	480kg		
		6	RDSO/T-	60mm	5 mm/mt	960kg			T-3702					
			3708			5501.8		4	RDSO/	60mm	5 mm/mt	390kg		
				4.5	- ·				T-3706	""""		-306		
			RDSO/T- 3723	45mm	5 mm/mt	600kg		5	RDSO/	60mm	5 mm/mt	720kg		
			5123						T-3707		J 11111/111t	/ 20Ng		
			RDSO/T-	60mm	5 mm/mt	490kg		6	RDSO/	60mm	5 mm/mt	960kg		
			8751					0	T-3708	OUIIIII	J IIIIII/IIIL	JOOKS		
	L		<u> </u>	l					1 3/00					

No. Liner	_	Dave Evicting provision in Specification of CEM (CHANG)							to Letter no. CT/EF/Po					
RDSO/T- 60mm	Para No.						Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red)						by approved	RDSO's Remarks
T-875 T		9		60mm	5 mm/mt	760kg				45mm	5 mm/mt	600kg		
T. RDSO/T- 60mm 5 mm/mt 864 kg 1 RDSO/T- 60mm 5 mm/mt 864 kg 1 RDSO/T- 60mm 5 mm/mt 885 kg 3 R222 1 RDSO/T- 60mm 5 mm/mt 914 kg 1 RDSO/T- 4 R223 1 RDSO/T- 60mm 5 mm/mt 914 kg 1 RDSO/T- 60mm 5 mm/mt 914 kg 1 RDSO/T- 60mm 5 mm/mt 914 kg 1 RDSO/T- 60mm 5 mm/mt 864 kg 1 RDSO/T- 80mm/mt 864 kg 1 RDSO/T- 80		1 1 -		60mm	5 mm/mt	1000kg				60mm	5 mm/mt	490kg		
1 RDSO/T- 60mm 5 mm/mt 864 kg 1 RDSO/ 60mm 5 mm/mt 885 kg 1 RDSO/ 60mm 5 mm/mt 648 kg 1 T-6938 1 RDSO/ 60mm 5 mm/mt 648 kg 1 T-6938 1 RDSO/ 60mm 5 mm/mt 648 kg 1 T-6938 1 RDSO/ 60mm 5 mm/mt 885 kg 1 R		1 1		60mm	5 mm/mt	648 Kg				60mm	5 mm/mt	760kg		
1 RDSO/T- 60mm 5 mm/mt 885 kg 1 RDSO/ 60mm 5 mm/mt 648 kg 1 RDSO/ 60mm 5 mm/mt 864 kg 1 RDSO/ 60mm 5 mm/mt 885 kg 1 RDSO/ 60mm 5 mm/mt 914 kg 1 RDSO/ 60mm 5 mm/mt 914 kg 1 RDSO/ 60mm 5 mm/mt 914 kg 1 RDSO/ 60mm 5 mm/mt		1 1	RDSO/T-	60mm	5 mm/mt	864 Kg				60mm	5 mm/mt	1000kg		
RDSO/T- 60mm 5 mm/mt 914 kg 2 1 c 6939 1 RDSO/ 60mm 5 mm/mt 885 kg 1 RDSO/ 3 T-8222 1 RDSO/ 60mm 5 mm/mt 885 kg 1 RDSO/ 60mm 5 mm/mt 885 kg 1 RDSO/ 60mm 5 mm/mt 914 kg 1 RDSO/ 1 RD		1	RDSO/T-	60mm	5 mm/mt	885 Kg				60mm	5 mm/mt	648 Kg		
Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. 1.0 Avath Rail Infra. Ltd: Required correction for bending load in place of bending strength The distance between the support points, rate of traverse of jaws of the testing machine and the acceptable value of cross-breaking load shall be as given in the table below: S. Drawing No Distanc Rate of Cross				60mm	5 mm/mt	914 Kg				60mm	5 mm/mt	864 Kg		
the CBL value shall be specified by RDSO as per requirement. Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. New Appendix-IIA added Required correction for bending load in place of bending strength I RDSO/ 4 [T-8223] Note: For GFN liners other than those mentioned above, the CBL value shall be specified by RDSO as per requirement. Suggestion of the firm ha examined and appendix had deleted. Required correction for bending load in place of bending strength I he radius of support points and of loading points shall be 1.5 mm. Iii) The distance between the support points, rate of traverse of jaws of the testing machine and the acceptable value of cross-breaking load shall be as given in the table below: S. Drawing No Distanc Rate of Cross				ners other	than those me	entioned above				60mm	5 mm/mt	885 Kg		
above, the CBL value shall be specified by RDSO as per requirement. New Appendix-IIA added		the (CBL value							60mm	5 mm/mt	914 Kg		
(IRS-T-44- 2023) TEST FOR CROSS BENDING STRENGTH OF HVN LINER i) The liner will be tested in a manner as shown in Appendix-IX ii) The radius of support points and of loading point shall be 1.5 mm. iii) The distance between the support points, rate of traverse of jaws of the testing machine and the acceptable value of cross-breaking load shall be as given in the table below: S. Drawing No Distanc Rate of Cross Rail Infra. Ltd.: Required correction for bending load in place of bending strength							ab	ove,	the CBL	value sha				
N e travers breakin betwee e of g load		New	Appendix-II	A added			ii) iii)	FHV The App The poin The of the sha	wn LINE e liner will bendix-IX e radius o t shall be e distance traverse o acceptab ill be as gi	be tested of support e 1.5 mm. between f jaws of e value ven in the	in a manner t points and the support the testing to of cross-br table below Rate of travers	TRENGTH as shown in of loading points, rate machine and eaking load control Cross breakin	Rail Infra. Ltd.: Required correction for bending load in place of bending strength	Suggestion of the firm has been examined and appendix has been deleted.

D	E ' COEN ((/HVIN) ((HVN dated 00.04.2025					
Para	Existing provision in Specification of GFN-66/HVN-66	Modified provision in Specification of GFN- 66/HVN-66 Liner (Modification shown in red)					Comments	RDSO's Remarks
No.	Liner	66/H	VN-66 Liner (Modificat	tion snowr	in rea)	/Suggestions	
							by approved	
			Γ	T ,	1	(17.)	vendors	
				support	(mm/m	(Kg)		
				points(t)			
				x)				
		(1)	(2)	(mm)	(4)	(5)		
		(1)	(2)	(3)	(4)	(5)		
		1	RDSO/T-	60	5	480		
			3702	(0)	_	240		
		2	RDSO/T-	60	5	340		
			3706	(0)	_	707		
		3	RDSO/T-	60	5	795		
		4	3707	60	5	1164		
		4	RDSO/T- 3708	00	3	1104		
		5	RDSO/T-	60	5	482		
			8751	00	3	402		
		6	RDSO/T-	60	5	977		
		0	8752	00	3	911		
		7	RDSO/T-	60	5	1424		
		'	8753			1727		
		8	RDSO/T-	60	5	721		
			6938			/21		
		9	RDSO/T-	60	5	987		
		^	6939					
		Note	For HVN line	ers other th	nan those r	nentioned		
			e, the CBS val					
			r requirement.		-r			
APP	(IRS-T-44-		•		(II	RS-T-44-	1.0 Avadh	No comments
ENDI	2023)	2023)		`		Rail Infra.	
X-	A. GLASS FILLER CONTENT	A. GLASS FILLER CONTENT					Ltd.:	
IIIA	1. METHOD	1. M	ETHOD				NA	
	1.1. Take a crucible and heat it by keeping in a muffle		Take a crucibl					
	furnace till a constant weight of the crucible is obtained. Let		le furnace til					
	its weight be = WC		ble is obtained.					
	1.2 Take approximately 2 gm of the specimen of the GFN-		ake approxima					
	66 liner in the above crucible and find the weight of the	ı	FN-66 liner in					
	crucible and specimen as above. Lot combined weight =		ht of the crucib		cimen as a	bove. Lot		
	WCGN		oined weight =		C 41	. 1		
	1.3 Then burn the nylon of the specimen by keeping the	1.3 Then burn the nylon of the specimen by keeping the crucible in the muffle furnace till						
	crucible in the muffle furnace till shining glass is noticed.							
	Allow it to cool to the room temperature.		ng glass is no	ucea. Allo	w it to co	ooi to the		
	1.4 Then weigh the above crucible and glass after cooling.	room	temperature.					

		licy/Global EOI/.	HVN dated 00.04.2025	
Para No.	Existing provision in Specification of GFN-66/HVN-66 Liner	Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red)	Comments /Suggestions by approved vendors	RDSO's Remarks
	Let its combined weight be = WCG 2. GLASS FILLER % CALCULATION 2.1 Find out weight of GFN-66 specimen as: WGN = WCGN - WC 2.2 Find out weight of Glass filler as: WG = WCG - WC 2.3 Therefore, weight of Glass filler % = WG/ WGN x100	1.4 Then weigh the above crucible and glass after cooling. Let its combined weight be = WCG 2. GLASS FILLER % CALCULATION 2.1 Find out weight of GFN-66 specimen as: WGN = WCGN - WC 2.2 Find out weight of Glass filler as: WG = WCG - WC 2.3 Therefore, weight of Glass filler % = WG/WGN x100		
	New Appendix-XII added	ARRANGEMENT FOR HAMMER TEST ON HVN LINER 4 KG HAMMER	1.0 M/s Polyset, Mumbai: Accepted 2.0 M/s AIL PLASTICS PVT. LTD., Kolkata: This amendment is acceptable	No comments As per comments of the firm one Appendix XII A has been added.
		Appendix-XII A ARRANGEMENT FOR HAMMER TEST ON HVN LINER		

Para No.	Existing provision in Specification of GFN-66/HVN-66 Liner	Modified provision in Specification of GFN-66/HVN-66 Liner (Modification shown in red)	Comments /Suggestions by approved vendors	RDSO's Remarks
		HAMMER HAMMER		

* M/s Ascend Performance Materials India Pvt. Ltd., Tamil Nadu:

Rationale for suggested changes:

Ascend would like to ensure that most capable (backward integrated) raw materials suppliers with relevant application expertise are participating in this 'safety-critical' system in the interest of larger public good. We believe that a backward integrated producer of PA66 materials would provide security of supply, control of quality-defining inputs, and relatively stable long-term cost position – all critical to sustaining a long-term program.