



## СПЕЦИФИКАЦИЯ

№Сп.ХТС-12/03.05.2023 г.

на изисквания за сеизмоустойчивост на оборудване  
по Заявка №12/03.05.2023 г.

**Относно:** Чохли 37/3 за съхранение на ОЯГ.

### 1. Обхват и класификация:

#### 1.1. Обхват:

Настоящата спецификация е изготвена за проектиране и доставка на чохли 37/3 за съхранение на ОЯГ по техническо задание (ТЗ) №23.ХОГ.ТЗ.69 на тема: “Осигуряване на чохли за съхранение на ОЯГ от ВВЕР – 1000 в ХОГ”.

#### 1.2. Класификация по безопасност и сеизмоустойчивост:

Чохлите са класифицирани в т.3.1 и т.3.2 на ТЗ като:

- клас по безопасност – **2-Н** по НП-001-15 “Общие положения обеспечения безопасности атомных станций”;
- сеизмична категория – **1 (първа)** по НП-031-01 “Нормы проектирования сейсмостойких атомных станций”.

### 2. Основни изисквания за сеизмичната квалификация на оборудването:

**2.1.** В съответствие с т.2.9 от НП-031-01, оборудване сеизмична категория 1 трябва да:

- запазва способността да изпълнява функциите си, свързани с осигуряване на безопасността на АЕЦ по време на и след земетресение с ниво МРЗ;
- съхрани работоспособност при земетресение с интензивност ПЗ включително и след неговото преминаване.

**2.2.** Сеизмоустойчивостта на чохлите да бъде доказана с анализ, в съответствие с изискванията за сеизмична квалификация на действащите нормативни документи, приложими за АЕЦ, като:

- НП-031-01 “Нормы проектирования сейсмостойких атомных станций”;
- ПНАЭ Г 7-002-86 “Нормы расчета на прочность оборудования и трубопроводов атомных энергетических установок”;
- ANSI/AISC N690-18 “Specification for Safety-Related Steel Structures for Nuclear Facilities”.

**2.3.** Използването на други нормативни документи трябва да бъде обосновано.

### 3. Спектри на реагиране:

**Приложение 1** (17 стр.) за кота -1<sup>.80</sup>; басейни за ОЯГ; ХОГ:

Спектър на реагиране за ускорение за възел **412** /графичен и табличен вид/, съгласно отчет РИД/Д-185/5 “Актуализирани етажни спектри на реагиране за укрепената конструкция на ХОГ на АЕЦ „Козлодуй”, “Риск Инженеринг” ООД, май 2000 г. – Фиг.П1-4 и Таблица П2-4 за МРЗ и Фиг.П1-16 и Таблица П2-16 за локални земетресения.

#### **4. Допълнителни указания и изисквания:**

##### **4.1. Определяне на сеизмичното въздействие:**

**4.1.1.** Приложените спектри за вероятност  $10^{-4}$  са поотделно за проверочно земетресение (RLE, MPЗ) и локално земетресение (LE) за пода на басейните за ОЯГ. Чохлите трябва да бъдат квалифицирани за двата предоставени спектъра (RLE и LE).

**4.1.2.** За площадка АЕЦ “Козлодуй” максималното ускорение при нулев период на спектъра на реагиране за свободна повърхност за **MPЗ=0.2g** и за **ПЗ=0.1g**.

**4.1.3.** Стойностите за затихването да се определят в съответствие с използвания нормативен документ, например НП-031-01 “Нормы проектирования сейсмостойких атомных станций”, NRC RG 1.61 “Damping values for seismic design of nuclear power plants” или друг приложим нормативен документ.

**4.1.4.** При необходимост от една хоризонтална съставяща, то тя се получава чрез корен квадратен от сумата на квадратите на спектрите на реагиране за двете хоризонтални съставящи.

**4.1.5.** При необходимост от използването на акселерограма, тя трябва да има следните параметри:

- продължителност - 61 сек.
- фаза на нарастване - 4 сек.
- интензивна част - 17 сек.
- фаза на затихване - 40 сек.

##### **4.2. Методика за доказване на сеизмоустойчивост:**

**4.2.1. Аналитичен метод** – приложим е за сеизмичната квалификация на конструкцията на чохлите в съответствие с изискванията на указанията в т.2.2. Чохлите се поставят свободно в басейните. За доказване на тяхната сеизмоустойчивост, в съответствие с т.3.3 на ТЗ, трябва да се разгледат три сценария при сеизмично въздействие:

- запълнен чохъл, захванат с щангата;
- обръщане на вертикално стоящ запълнен чохъл;
- хоризонтален удар в стоящ съседен чохъл.

В съответствие с т.5.6 на НП-031-01 сеизмичното въздействие за анализите, дефинирано с трикомпонентен спектър на реагиране (или акселерограми), да се прилага едновременно в трите направления.

При анализите да се отчита, че чохлите се съхраняват под вода.

**4.2.2. Доказване на сеизмоустойчивост по резултатите от по-рано извършени изчисления** – доказване на сеизмоустойчивостта на чохлите е възможно при извършване на сеизмична квалификация по резултати от по-рано извършени:

- типови изчисления;
- изчисления за подобно оборудване;
- изчисления за други обекти.

Приложимостта на резултатите от по-рано извършвани изчисления се извършва по критериите и последователността, описани в т.5.2.

#### **5. Документиране на квалификацията по сеизмоустойчивост:**

**5.1.** При извършване на сеизмична квалификация на оборудване **чрез анализ (изчисления)**, документът за сеизмична квалификация трябва да съдържа: използвани нормативни документи; метод за сеизмична квалификация; ниво на въздействие; необходим (изчислителен) спектър на реагиране (НСР); изчислителен модел; комбинации на натоварване; допустими стойности на оценяваните параметри; използвани критерии за оценка; схема на натоварване; подробно описание на получените резултати (включително: собствени честоти; собствени форми; диаграми на получени усилия, деформации, напрежения, премествания и др.); компактдиск (CD), съдържащ пълна разпечатка от

компютърната програма за извършените изчисления; обобщение, анализ на получените резултати и заключения за сеизмоустойчивост.

**5.2.** При извършване на сеизмичната квалификация на оборудването по резултати от по-рано извършени типови изчисления, изчисления за други обекти или изчисления на подобно оборудване е необходимо, **доставчикът/проектантът да представи анализ и даде заключение за:**

**5.2.1.** Актуалност и приложимост на използваните нормативни документи и съответствието на представения документ за сеизмична квалификация с изискванията им.

**5.2.2.** Пълнотата (съдържание и обем) на документите от извършените анализи за сеизмична квалификация. Документите от анализите се прилагат в пълен обем.

**5.2.3.** Подобие на анализираното оборудване с конкретно доставяното/проектираното за АЕЦ “Козлодуй” оборудване на базата на изчисления – сравняват се физическите характеристики (размери, маса, център на тежестта, начин на монтаж, собствени честоти, материално затихване и др., имащи отношение към реагирането на оборудването при сеизмично въздействие); идентичност на функциите на оборудването; достатъчност на определените критерии и параметри за работоспособност при сеизмично въздействие.

**5.2.4.** Приложимостта на сеизмичното въздействие, използвано при анализите към мястото на монтаж в АЕЦ “Козлодуй” – сравняват се спектрите на реагиране и акселерограмата за мястото на монтаж в АЕЦ “Козлодуй”, определени по изискванията по-горе (т.3 и т.4.1.) със спектъра и акселерограмата, използвани при анализа, като спектърът на въздействието от анализа трябва да покрива този за мястото на монтаж при едно и също затихване.

**5.2.5.** Достатъчност на представените доказателства за запазване на функционалност и цялост при сеизмично въздействие (конкретни резултати от всички извършени при сеизмично въздействие, както и анализ и оценка на получените резултати за функционалност и конструктивна цялост). Доказателствата не трябва да имат само информативен или декларативен характер.

## **6. Използвани съкращения:**

**MP3/RLE** – Максимално разчетено земетресение;

**ПЗ/ОВЕ** – Проектно земетресение;

**ХОГ** – Хранилище за отработено гориво;

**ОЯГ** – отработено ядрено гориво.

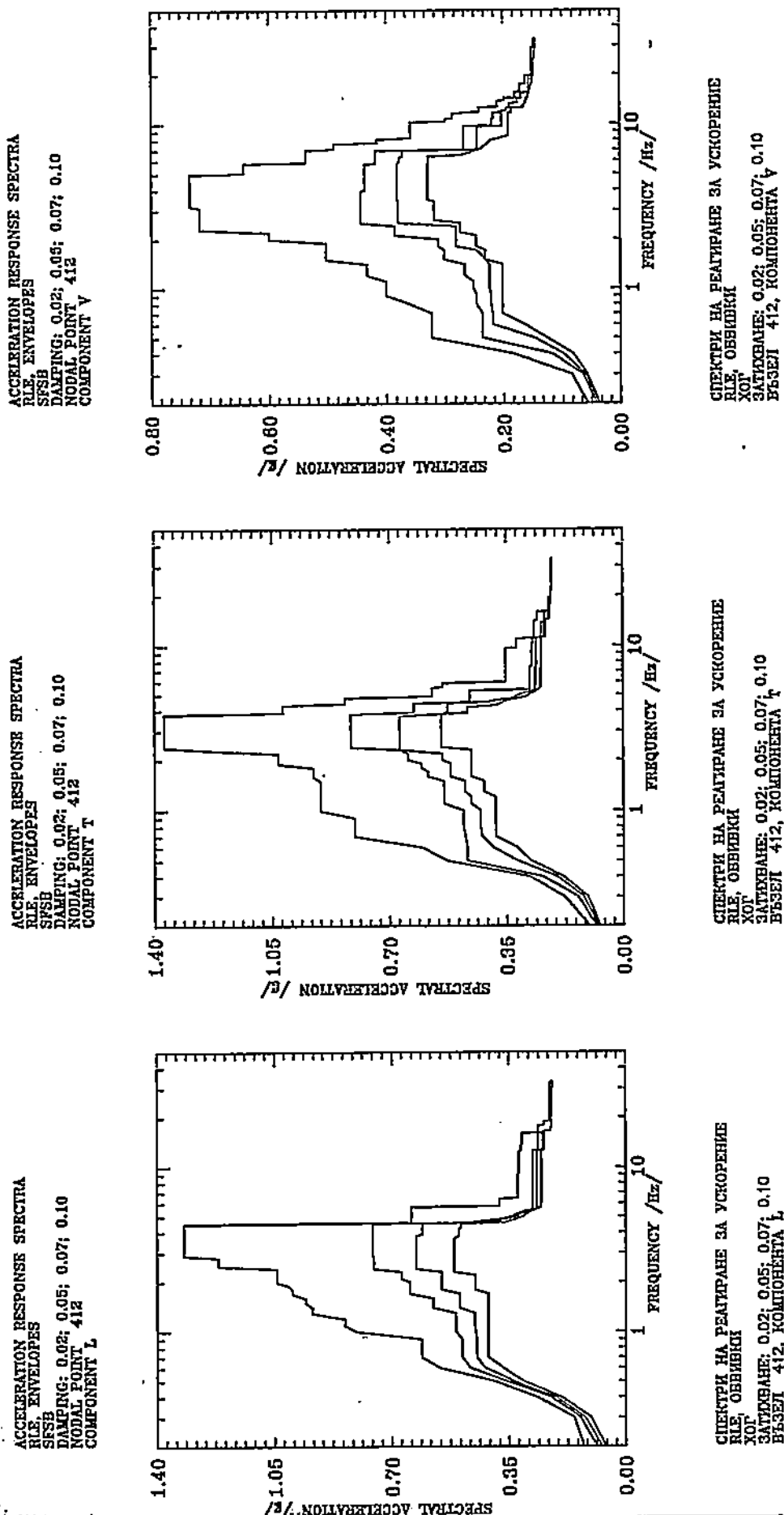
Заличено на основание  
ЗЗЛД

**Н-К ЦЕХ ХТС и СК:**

**ЦВЕТОМИГ МАГИНОВ**

Изготвил,  
Р-л сектор СзК:  
04.05 .2023 г. Заличено на  
основание  
ЗЗЛД  
Уладен Петров

Спектри на реагиране за укрепената конструкция на ХОГ



Фиг.П11-4 Спектри на реагиране.Въздействие - RLE, Възел 412

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4  
СТАЖНИ СПЕКТРИ НА РЕАГИРАНЕ - RLE  
ВЪЗРА 412

Hz	L			T			V			
	2%	5%	10%	2%	5%	10%	2%	5%	10%	
.20	.1272	.0871	.0728	.1051	.0841	.0781	.0569	.0424	.0379	.0355
.30	.1560	.1370	.1237	.1812	.1391	.1226	.0847	.0656	.0609	.0582
.40	.2682	.2267	.2119	.2829	.2449	.2010	.1842	.1184	.1001	.0827
.50	.3947	.3585	.3365	.5287	.4682	.3175	.3227	.2368	.1491	.1273
.60	.5561	.4664	.4217	.6015	.4682	.3915	.3227	.2368	.2189	.1650
.70	.6103	.4901	.4474	.8033	.4738	.4240	.3227	.2368	.2189	.2020
.80	.6103	.4901	.4474	.8033	.4792	.4279	.3617	.2469	.2213	.2020
.90	.6103	.4901	.4474	.8033	.4792	.4279	.4007	.2469	.2213	.2020
1.00	.8056	.5090	.4500	.9044	.4792	.4279	.4007	.2518	.2240	.2020
1.10	.8401	.5090	.4527	.9044	.5376	.4570	.4007	.2518	.2240	.2020
1.20	.8401	.5090	.4527	.9044	.5376	.4570	.4334	.2673	.2240	.2020
1.30	.9357	.5090	.4527	.9044	.5376	.4755	.4334	.2673	.2240	.2020
1.40	.9357	.5770	.4980	.9044	.5376	.4755	.4334	.2673	.2240	.2020
1.50	.9559	.5770	.4980	.9044	.5376	.4755	.5030	.3019	.2314	.2314
1.60	.9559	.5770	.4980	.9266	.5838	.5174	.5030	.3019	.2314	.2314
1.70	.9965	.6469	.4980	.9266	.5838	.5174	.5030	.3019	.2314	.2314
1.80	.9965	.6469	.5515	.9266	.6036	.5174	.5030	.3119	.2472	.2472
1.90	1.0080	.6469	.5515	1.0330	.6036	.5174	.5030	.3119	.2472	.2472
2.00	1.0430	.6469	.5515	1.0330	.6449	.5423	.6007	.3119	.2611	.2472
2.10	1.0430	.6714	.5515	1.0330	.6449	.5423	.6007	.3852	.2811	.2472
2.20	1.0430	.6714	.5515	1.0330	.6449	.5423	.6007	.3852	.2811	.2748
2.30	1.0430	.6714	.5515	1.2450	.6693	.6693	.7174	.3852	.2811	.2748
2.40	1.0430	.7541	.6282	1.3710	.8141	.6693	.7174	.3852	.2811	.2748
2.50	1.2160	.7541	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.2748
2.60	1.2160	.7541	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
2.70	1.2160	.7541	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
2.80	1.2160	.7541	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
2.90	1.3180	.7573	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
3.00	1.3180	.7573	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
3.10	1.3180	.7573	.6282	1.3710	.8141	.6693	.7174	.4440	.3804	.3191
3.20	1.3180	.7573	.6282	1.3710	.8141	.6693	.7341	.4440	.3804	.3191
3.30	1.3180	.7573	.6282	1.3710	.8141	.6693	.7341	.4440	.3804	.3191
3.40	1.3180	.7573	.6282	1.3710	.8141	.6693	.7341	.4440	.3804	.3191

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Продължение

Hz	L			T			V					
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
3.50	1.3180	.7573	.6282	.5139	1.3710	.8141	.6693	.5452	.7341	.4440	.3820	.3294
3.60	1.3180	.7573	.6282	.5139	1.3710	.8141	.6693	.5452	.7341	.4440	.3820	.3294
3.70	1.3180	.7573	.6282	.5139	1.3710	.8141	.6693	.5452	.7341	.4440	.3820	.3294
3.80	1.3180	.7573	.6282	.5002	1.3710	.8141	.5452	.5452	.7341	.4440	.3820	.3294
3.90	1.3180	.7573	.6097	.5002	1.0160	.6256	.5263	.4679	.7341	.4372	.3820	.3294
4.00	1.3180	.7573	.6097	.5002	1.0160	.6256	.5263	.4679	.7341	.4372	.3820	.3294
4.10	1.3180	.7573	.6097	.5002	1.0160	.6256	.5263	.4679	.7341	.4372	.3820	.3294
4.20	1.3180	.7573	.6097	.5002	1.0160	.6256	.5263	.4679	.7341	.4372	.3820	.3294
4.30	1.3180	.7573	.6097	.4938	1.0160	.6256	.5263	.3822	.7341	.4372	.3820	.3294
4.40	1.3180	.7573	.6097	.4938	.8314	.6256	.5263	.3689	.7341	.4372	.3820	.3294
4.50	1.3180	.7573	.6097	.4938	.8314	.4596	.4051	.3612	.7341	.4372	.3820	.3294
4.60	.6416	.4652	.4127	.3615	.8314	.4596	.3828	.3468	.7341	.4372	.3820	.3294
4.70	.6416	.4289	.3861	.3472	.8314	.4596	.3512	.3281	.7341	.4372	.3820	.3294
4.80	.6416	.3833	.3586	.3312	.8314	.4596	.3266	.3084	.7341	.4372	.3820	.3294
4.90	.6416	.3554	.3399	.3204	.5717	.4596	.3211	.2921	.7341	.4372	.3820	.3294
5.00	.6416	.3446	.3280	.3088	.5717	.4596	.3099	.2838	.7341	.4372	.3820	.3294
5.10	.6416	.3327	.3202	.3043	.5717	.4596	.3010	.2760	.6425	.4372	.3820	.3294
5.20	.6416	.3249	.3100	.2952	.5717	.4596	.2855	.2664	.6425	.4372	.3820	.3294
5.30	.6416	.3134	.3007	.2862	.5717	.4596	.2713	.2600	.6425	.4372	.3820	.3294
5.40	.6416	.3009	.2898	.2785	.5717	.2811	.2635	.2554	.6425	.4372	.3820	.3294
5.50	.6416	.2855	.2780	.2705	.5717	.2811	.2635	.2513	.6425	.4372	.3820	.3294
5.60	.6416	.2792	.2663	.2626	.5405	.2811	.2635	.2476	.6425	.4372	.3820	.3294
5.70	.6416	.2792	.2663	.2555	.5405	.2811	.2635	.2473	.6425	.4372	.3820	.3294
5.80	.3782	.2792	.2663	.2547	.5405	.2811	.2635	.2473	.6425	.4186	.3799	.3284
5.90	.3782	.2792	.2663	.2547	.5405	.2811	.2635	.2473	.5364	.4186	.3799	.3284
6.00	.3782	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3771	.3284
6.10	.3782	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3771	.3284
6.20	.3782	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3771	.3284
6.30	.3782	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3771	.3284
6.40	.3782	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.3284
6.50	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.2719
6.60	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.2665
6.70	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.2598
6.80	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.2525

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Прогръжение

Hz	L			T			V					
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
6.90	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.4186	.3717	.2464
7.00	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.5364	.2683	.2536	.2425
7.10	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.4888	.2683	.2463	.2391
7.20	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.4888	.2683	.2449	.2363
7.30	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2473	.4888	.2683	.2449	.2339
7.40	.3249	.2792	.2663	.2547	.3528	.2811	.2635	.2467	.4888	.2683	.2449	.2318
7.50	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4888	.2683	.2449	.2297
7.60	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4888	.2683	.2449	.2275
7.70	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4158	.2683	.2449	.2270
7.80	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4158	.2683	.2449	.2255
7.90	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4158	.2683	.2449	.2228
8.00	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4158	.2683	.2449	.2187
8.10	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.4158	.2683	.2449	.2136
8.20	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.2079
8.30	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.2020
8.40	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1965
8.50	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1919
8.60	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
8.70	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
8.80	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
8.90	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.00	.3249	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.10	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.20	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.30	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.40	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.50	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.60	.3206	.2792	.2663	.2547	.3528	.2748	.2596	.2467	.3591	.2683	.2449	.1911
9.70	.3206	.2792	.2663	.2547	.3188	.2748	.2596	.2467	.3591	.2683	.2031	.1911
9.80	.3206	.2792	.2663	.2547	.3188	.2748	.2596	.2467	.3591	.2202	.2031	.1911
9.90	.3206	.2792	.2663	.2547	.3188	.2748	.2596	.2467	.3591	.2202	.2031	.1911
10.00	.3206	.2792	.2663	.2547	.3188	.2717	.2596	.2467	.3591	.2202	.2031	.1911
10.10	.3206	.2792	.2663	.2547	.3188	.2717	.2596	.2467	.3591	.2202	.2031	.1911
10.20	.3206	.2792	.2663	.2547	.3188	.2717	.2596	.2467	.3591	.2202	.2031	.1911

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Продължение

Hz	L			Г			V			
	2%	5%	7%	2%	5%	7%	2%	5%	7%	10%
10.30	.3206	.2792	.2663	.3188	.2717	.2596	.2988	.2202	.2031	.1911
10.40	.3206	.2792	.2663	.3188	.2717	.2596	.2988	.2202	.2031	.1911
10.50	.3206	.2792	.2663	.3188	.2717	.2596	.2988	.2202	.2031	.1911
10.60	.3206	.2792	.2663	.3188	.2717	.2596	.2988	.2202	.2031	.1911
10.70	.3206	.2792	.2663	.3188	.2717	.2596	.2988	.2176	.2031	.1911
10.80	.3206	.2792	.2663	.3188	.2717	.2596	.2872	.2176	.2031	.1911
10.90	.3206	.2792	.2663	.3188	.2717	.2596	.2872	.2176	.2031	.1911
11.00	.3206	.2792	.2663	.3188	.2717	.2596	.2872	.2176	.2031	.1911
11.10	.3206	.2792	.2663	.2717	.2596	.2596	.2872	.2176	.2031	.1911
11.20	.3206	.2792	.2663	.2659	.2459	.2391	.2872	.2176	.2031	.1911
11.30	.3206	.2792	.2663	.2659	.2459	.2391	.2872	.2176	.2031	.1911
11.40	.3206	.2792	.2663	.2659	.2459	.2391	.2872	.2176	.2031	.1911
11.50	.3206	.2792	.2663	.2659	.2459	.2391	.2872	.2176	.2031	.1911
11.60	.3206	.2792	.2663	.2659	.2459	.2391	.2716	.2176	.2031	.1911
11.70	.3206	.2792	.2663	.2659	.2459	.2391	.2716	.2176	.2031	.1911
11.80	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.2031	.2031	.1858
11.90	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.2031	.2031	.1858
12.00	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.10	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.20	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.30	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.40	.3206	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.50	.3148	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.60	.3148	.2792	.2663	.2659	.2459	.2391	.2419	.1950	.1950	.1858
12.70	.3148	.2627	.2514	.2659	.2459	.2391	.2419	.1893	.1675	.1659
12.80	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1893	.1671	.1654
12.90	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1893	.1665	.1650
13.00	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1893	.1660	.1645
13.10	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1893	.1654	.1640
13.20	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1893	.1648	.1635
13.30	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1888	.1642	.1631
13.40	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1888	.1637	.1626
13.50	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1760	.1632	.1622
13.60	.3148	.2627	.2514	.2659	.2459	.2391	.2101	.1760	.1629	.1618
								.1760	.1627	.1615



Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Прогъждане

Hz	L				T				V			
	28	58	78	108	28	58	78	108	28	58	78	108
13.70	.3111	.2627	.2514	.2441	.2659	.2459	.2391	.2326	.2101	.1760	.1624	.1612
13.80	.3111	.2627	.2514	.2441	.2659	.2459	.2391	.2326	.1982	.1760	.1622	.1609
13.90	.3111	.2627	.2514	.2441	.2659	.2377	.2326	.2326	.1982	.1760	.1619	.1606
14.00	.3111	.2627	.2514	.2441	.2659	.2377	.2326	.2326	.1982	.1760	.1616	.1603
14.10	.3111	.2627	.2514	.2441	.2573	.2377	.2326	.2326	.1982	.1760	.1613	.1599
14.20	.3111	.2627	.2514	.2441	.2573	.2377	.2326	.2326	.1982	.1760	.1608	.1596
14.30	.3111	.2627	.2514	.2441	.2573	.2377	.2326	.2326	.1982	.1760	.1603	.1592
14.40	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1597	.1588
14.50	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1590	.1584
14.60	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1584	.1580
14.70	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1578	.1577
14.80	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1573	.1573
14.90	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1570	.1570
15.00	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1567	.1567
15.10	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1567	.1567
15.20	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1565	.1565
15.30	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1565	.1563
15.40	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1565	.1561
15.50	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1693	.1565	.1559
15.60	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1797	.1566	.1565	.1557
15.70	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2210	.1717	.1566	.1565	.1555
15.80	.3111	.2627	.2514	.2441	.2573	.2377	.2223	.2209	.1717	.1566	.1565	.1553
15.90	.3111	.2627	.2514	.2441	.2573	.2242	.2221	.2209	.1717	.1566	.1565	.1551
16.00	.3111	.2627	.2514	.2441	.2290	.2242	.2220	.2208	.1717	.1566	.1565	.1549
16.10	.3111	.2627	.2514	.2441	.2279	.2242	.2217	.2206	.1717	.1566	.1565	.1547
16.20	.2641	.2512	.2512	.2441	.2263	.2242	.2215	.2205	.1717	.1566	.1565	.1545
16.30	.2641	.2512	.2512	.2441	.2244	.2242	.2213	.2204	.1717	.1566	.1565	.1543
16.40	.2641	.2512	.2512	.2441	.2242	.2242	.2211	.2203	.1717	.1566	.1565	.1541
16.50	.2641	.2441	.2441	.2441	.2242	.2242	.2209	.2202	.1717	.1566	.1565	.1539
16.60	.2641	.2441	.2441	.2441	.2242	.2242	.2207	.2201	.1717	.1566	.1565	.1537
16.70	.2641	.2277	.2277	.2277	.2242	.2242	.2205	.2199	.1717	.1566	.1565	.1535
16.80	.2641	.2272	.2272	.2272	.2242	.2242	.2203	.2198	.1717	.1566	.1565	.1532
16.90	.2641	.2268	.2268	.2268	.2242	.2242	.2201	.2197	.1717	.1566	.1565	.1530
17.00	.2641	.2264	.2264	.2264	.2242	.2242	.2200	.2196	.1717	.1566	.1565	.1528

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Продължение

Hz	I				T				V			
	2#	5#	7#	10#	2#	5#	7#	10#	2#	5#	7#	10#
17.10	.2641	.2261	.2261	.2261	.2242	.2242	.2198	.2195	.1717	.1566	.1565	.1526
17.20	.2641	.2257	.2257	.2257	.2242	.2242	.2196	.2193	.1717	.1566	.1565	.1524
17.30	.2641	.2254	.2254	.2254	.2242	.2242	.2195	.2192	.1717	.1566	.1565	.1522
17.40	.2641	.2251	.2251	.2251	.2242	.2242	.2194	.2191	.1717	.1566	.1565	.1520
17.50	.2641	.2251	.2248	.2248	.2242	.2242	.2192	.2190	.1619	.1566	.1565	.1518
17.60	.2641	.2251	.2245	.2245	.2242	.2242	.2191	.2189	.1619	.1566	.1565	.1516
17.70	.2641	.2251	.2243	.2243	.2242	.2242	.2190	.2188	.1619	.1566	.1565	.1514
17.80	.2641	.2251	.2243	.2240	.2242	.2242	.2189	.2187	.1619	.1566	.1565	.1513
17.90	.2463	.2251	.2243	.2240	.2242	.2242	.2188	.2186	.1619	.1566	.1565	.1511
18.00	.2463	.2251	.2243	.2240	.2242	.2242	.2187	.2185	.1619	.1566	.1565	.1509
18.10	.2463	.2251	.2243	.2240	.2242	.2242	.2186	.2184	.1619	.1566	.1565	.1508
18.20	.2463	.2251	.2243	.2240	.2242	.2242	.2185	.2183	.1619	.1566	.1565	.1506
18.30	.2463	.2251	.2243	.2240	.2242	.2242	.2184	.2182	.1619	.1566	.1565	.1505
18.40	.2463	.2251	.2243	.2240	.2242	.2242	.2183	.2181	.1619	.1566	.1565	.1504
18.50	.2463	.2251	.2243	.2240	.2242	.2242	.2182	.2180	.1619	.1566	.1565	.1502
18.60	.2463	.2251	.2243	.2240	.2242	.2242	.2181	.2180	.1619	.1566	.1565	.1501
18.70	.2463	.2251	.2243	.2240	.2242	.2242	.2180	.2179	.1619	.1566	.1565	.1500
18.80	.2463	.2251	.2243	.2240	.2242	.2242	.2179	.2178	.1619	.1566	.1498	.1498
18.90	.2463	.2251	.2243	.2240	.2242	.2242	.2178	.2177	.1619	.1566	.1497	.1497
19.00	.2304	.2251	.2243	.2240	.2242	.2242	.2177	.2176	.1619	.1566	.1496	.1496
19.10	.2304	.2251	.2243	.2240	.2242	.2242	.2176	.2176	.1619	.1566	.1495	.1495
19.20	.2304	.2251	.2243	.2240	.2242	.2242	.2176	.2176	.1619	.1566	.1494	.1494
19.30	.2304	.2251	.2243	.2240	.2242	.2242	.2175	.2175	.1619	.1566	.1493	.1493
19.40	.2304	.2251	.2243	.2240	.2242	.2242	.2174	.2174	.1619	.1566	.1492	.1492
19.50	.2304	.2251	.2243	.2240	.2174	.2174	.2174	.2173	.1619	.1566	.1491	.1491
19.60	.2304	.2251	.2243	.2240	.2176	.2173	.2173	.2172	.1619	.1490	.1490	.1490
19.70	.2304	.2251	.2243	.2240	.2176	.2173	.2173	.2172	.1619	.1490	.1489	.1489
19.80	.2304	.2251	.2243	.2240	.2176	.2172	.2172	.2171	.1513	.1489	.1489	.1489
19.90	.2304	.2251	.2243	.2240	.2176	.2172	.2172	.2170	.1513	.1489	.1489	.1489
20.00	.2304	.2251	.2243	.2240	.2176	.2172	.2171	.2170	.1513	.1489	.1489	.1489
20.10	.2304	.2251	.2243	.2239	.2176	.2171	.2170	.2168	.1513	.1489	.1489	.1489
20.20	.2304	.2251	.2243	.2239	.2176	.2171	.2169	.2168	.1513	.1489	.1489	.1489
20.30	.2304	.2251	.2243	.2239	.2176	.2171	.2169	.2168	.1513	.1489	.1489	.1489
20.40	.2304	.2250	.2243	.2239	.2176	.2170	.2169	.2167	.1513	.1489	.1489	.1489
					.2176	.2170	.2168	.2166	.1513	.1489	.1489	.1489

**Спектри на реазиране за укрепената конструкция на ХОГ**

ТАБЛИЦА П2-4 – Прогъжение

Hz	L			T			V			
	2%	5%	7%	2%	5%	7%	2%	5%	7%	10%
20.50	.2304	.2249	.2242	.2238	.2176	.2170	.2168	.2166	.1489	.1489
20.60	.2304	.2249	.2242	.2238	.2176	.2169	.2167	.2165	.1489	.1489
20.70	.2304	.2249	.2242	.2238	.2176	.2169	.2167	.2165	.1489	.1489
20.80	.2304	.2249	.2242	.2238	.2175	.2168	.2166	.2164	.1489	.1489
20.90	.2304	.2249	.2242	.2238	.2174	.2167	.2165	.2163	.1489	.1489
21.00	.2304	.2249	.2242	.2237	.2172	.2167	.2165	.2163	.1489	.1489
21.10	.2304	.2249	.2242	.2237	.2170	.2166	.2164	.2162	.1489	.1489
21.20	.2304	.2249	.2242	.2237	.2168	.2165	.2163	.2161	.1489	.1489
21.30	.2304	.2249	.2242	.2237	.2167	.2164	.2162	.2161	.1489	.1489
21.40	.2304	.2249	.2242	.2237	.2165	.2163	.2162	.2160	.1489	.1489
21.50	.2304	.2249	.2242	.2237	.2164	.2162	.2161	.2159	.1489	.1489
21.60	.2304	.2249	.2242	.2237	.2163	.2161	.2160	.2159	.1489	.1489
21.70	.2304	.2249	.2242	.2237	.2163	.2161	.2159	.2158	.1489	.1489
21.80	.2304	.2249	.2242	.2237	.2163	.2160	.2158	.2157	.1489	.1489
21.90	.2304	.2249	.2242	.2237	.2163	.2159	.2158	.2157	.1489	.1489
22.00	.2304	.2249	.2242	.2237	.2162	.2158	.2157	.2156	.1489	.1489
22.10	.2304	.2249	.2242	.2237	.2161	.2157	.2156	.2155	.1489	.1489
22.20	.2304	.2249	.2242	.2237	.2160	.2156	.2155	.2155	.1489	.1489
22.30	.2304	.2249	.2242	.2237	.2159	.2155	.2154	.2154	.1489	.1489
22.40	.2304	.2249	.2242	.2237	.2157	.2154	.2153	.2153	.1489	.1489
22.50	.2304	.2249	.2242	.2237	.2156	.2153	.2153	.2153	.1489	.1489
22.60	.2304	.2249	.2242	.2237	.2154	.2153	.2152	.2152	.1489	.1489
22.70	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2151	.1489	.1489
22.80	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2151	.1489	.1489
22.90	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.00	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.10	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.20	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.30	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.40	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.50	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.60	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.70	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489
23.80	.2304	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1489	.1489

## Спектри на резонанс за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Прогнозиране

Hz	L				Г				V			
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
23.90	.2299	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.00	.2291	.2249	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.10	.2290	.2248	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.20	.2290	.2248	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.30	.2290	.2248	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.40	.2290	.2247	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.50	.2290	.2247	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.60	.2290	.2246	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.70	.2290	.2246	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.80	.2290	.2245	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
24.90	.2290	.2245	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
25.00	.2290	.2245	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1489	.1489	.1489
25.10	.2290	.2245	.2242	.2237	.2153	.2153	.2152	.2150	.1513	.1470	.1469	.1469
25.20	.2290	.2245	.2242	.2236	.2153	.2153	.2152	.2150	.1513	.1470	.1468	.1468
25.30	.2290	.2245	.2242	.2235	.2153	.2153	.2152	.2150	.1513	.1470	.1467	.1467
25.40	.2290	.2245	.2242	.2235	.2153	.2153	.2152	.2150	.1513	.1470	.1467	.1467
25.50	.2290	.2245	.2242	.2234	.2153	.2153	.2152	.2150	.1513	.1470	.1467	.1467
25.60	.2290	.2245	.2242	.2234	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1466
25.70	.2290	.2245	.2242	.2234	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1466
25.80	.2290	.2245	.2242	.2233	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1466
25.90	.2290	.2245	.2242	.2233	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1466
26.00	.2290	.2245	.2242	.2233	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1466
26.10	.2290	.2245	.2242	.2232	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1465
26.20	.2290	.2245	.2242	.2232	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1465
26.30	.2290	.2244	.2242	.2232	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1465
26.40	.2290	.2244	.2242	.2231	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1465
26.50	.2290	.2243	.2242	.2231	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1465
26.60	.2290	.2242	.2242	.2231	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1464
26.70	.2290	.2242	.2242	.2230	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1464
26.80	.2290	.2242	.2242	.2230	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1464
26.90	.2290	.2242	.2242	.2229	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1464
27.00	.2290	.2242	.2242	.2229	.2153	.2153	.2152	.2150	.1513	.1470	.1466	.1463
27.10	.2290	.2242	.2242	.2228	.2153	.2153	.2152	.2150	.1513	.1469	.1465	.1463
27.20	.2290	.2242	.2242	.2228	.2153	.2153	.2152	.2150	.1513	.1469	.1465	.1463
27.30	.2290	.2242	.2242	.2227	.2153	.2153	.2152	.2150	.1513	.1468	.1465	.1462

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Продължение

Hz	L				T				V			
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
27.30	.2290	.2242	.2242	.2227	.2153	.2153	.2152	.2150	.1513	.1468	.1464	.1462
27.40	.2290	.2242	.2242	.2226	.2153	.2153	.2152	.2150	.1513	.1467	.1464	.1462
27.50	.2290	.2242	.2242	.2226	.2153	.2153	.2152	.2150	.1513	.1466	.1463	.1461
27.60	.2290	.2242	.2242	.2225	.2153	.2153	.2152	.2150	.1513	.1465	.1463	.1461
27.70	.2290	.2242	.2242	.2225	.2153	.2153	.2152	.2150	.1513	.1464	.1462	.1461
27.80	.2290	.2242	.2242	.2225	.2153	.2153	.2152	.2150	.1513	.1463	.1461	.1460
27.90	.2290	.2242	.2242	.2224	.2153	.2153	.2152	.2150	.1513	.1462	.1461	.1460
28.00	.2290	.2242	.2242	.2224	.2153	.2153	.2152	.2150	.1513	.1461	.1460	.1460
28.10	.2290	.2242	.2242	.2224	.2153	.2153	.2152	.2150	.1513	.1460	.1460	.1459
28.20	.2290	.2242	.2242	.2223	.2153	.2153	.2152	.2150	.1513	.1459	.1459	.1459
28.30	.2290	.2242	.2242	.2223	.2153	.2153	.2152	.2150	.1513	.1459	.1459	.1459
28.40	.2290	.2242	.2242	.2223	.2153	.2153	.2152	.2150	.1513	.1458	.1458	.1458
28.50	.2290	.2242	.2242	.2223	.2153	.2153	.2152	.2150	.1513	.1458	.1458	.1458
28.60	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1457	.1457	.1457
28.70	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1457	.1457	.1457
28.80	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1457	.1457	.1457
28.90	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1457	.1457	.1457
29.00	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1456	.1456	.1456
29.10	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1456	.1456	.1456
29.20	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1513	.1456	.1456	.1456
29.30	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1455	.1455
29.40	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1455	.1455
29.50	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1455	.1455
29.60	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1455	.1455
29.70	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1455	.1455
29.80	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1454
29.90	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1454
30.00	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1454
30.10	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
30.20	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
30.30	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
30.40	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
30.50	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
30.60	.2290	.2242	.2242	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452

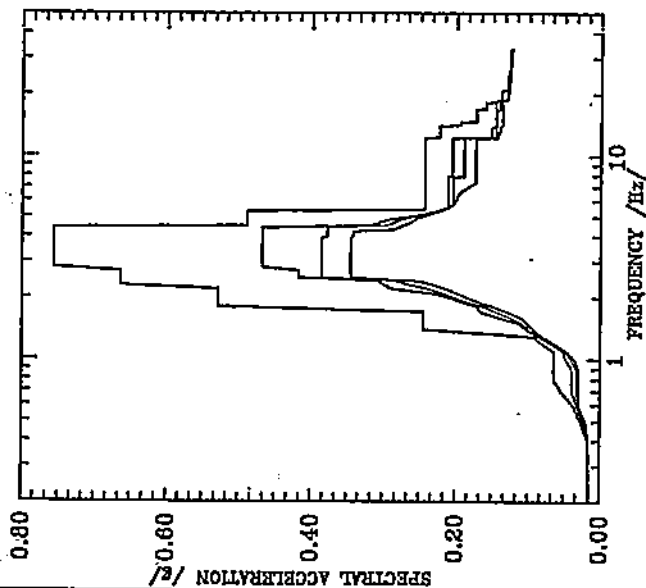
Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-4 - Прогъждане

Hz	L				T				V			
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
30.90	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.00	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.10	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.20	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.30	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.40	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.50	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.60	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.70	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.80	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
31.90	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.00	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.10	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.20	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.30	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.40	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.50	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.60	.2290	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.70	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.80	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
32.90	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1489	.1455	.1454	.1452
33.00	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1472	.1455	.1454	.1452
33.10	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1464	.1455	.1454	.1452
33.20	.2240	.2222	.2222	.2222	.2153	.2153	.2152	.2150	.1461	.1455	.1454	.1452
					.2153	.2153	.2152	.2150	.1457	.1455	.1454	.1452

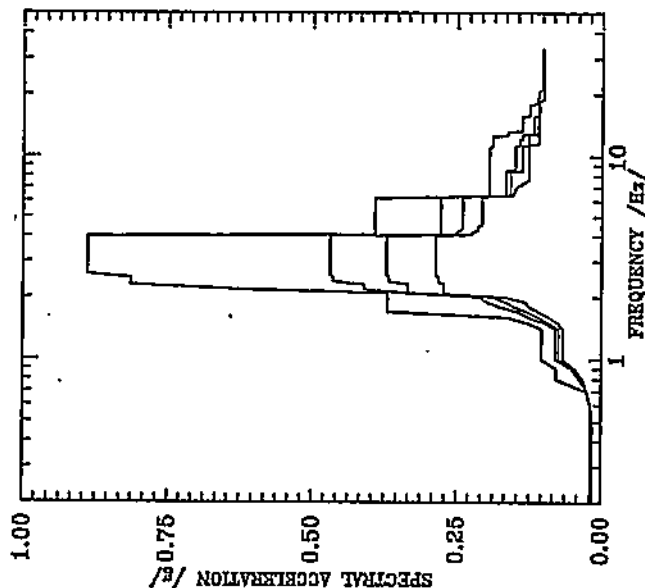
Спектри на реагиране за укрепената конструкция на ХОГ

ACCELERATION RESPONSE SPECTRA  
LOCAL EARTHQUAKE, ENVELOPES  
SFSB  
DAMPING: 0.02; 0.05; 0.07; 0.10  
NODAL POINT 412  
COMPONENT L



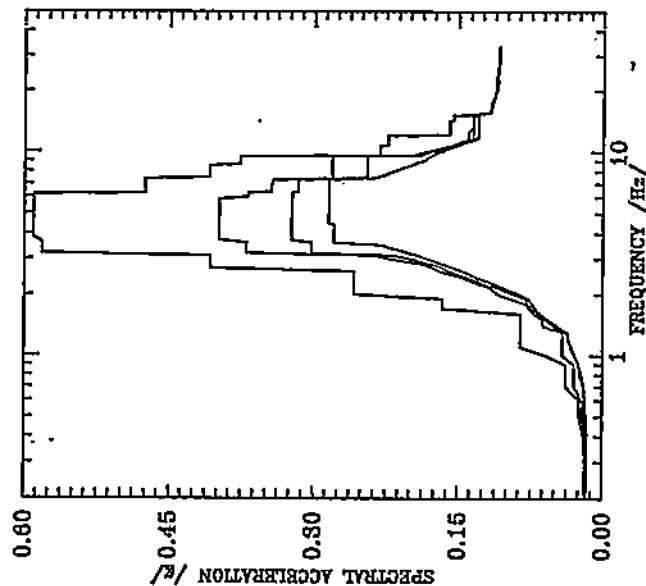
СПЕКТРИ НА РЕАГИРАНЕ ЗА УСКОРЕНИЕ  
ЛОКАЛНИ ЗЕМЕТРЕСЕНИЯ, ОБВИВКИ  
ХОГ  
ЗАТЪХВАНЕ: 0.02; 0.05; 0.07; 0.10  
ВЪЗЕЛ 412, КОМПОНЕНТА L

ACCELERATION RESPONSE SPECTRA  
LOCAL EARTHQUAKE, ENVELOPES  
SFSB  
DAMPING: 0.02; 0.05; 0.07; 0.10  
NODAL POINT 412  
COMPONENT T



СПЕКТРИ НА РЕАГИРАНЕ ЗА УСКОРЕНИЕ  
ЛОКАЛНИ ЗЕМЕТРЕСЕНИЯ, ОБВИВКИ  
ХОГ  
ЗАТЪХВАНЕ: 0.02; 0.05; 0.07; 0.10  
ВЪЗЕЛ 412, КОМПОНЕНТА T

ACCELERATION RESPONSE SPECTRA  
LOCAL EARTHQUAKE, ENVELOPES  
SFSB  
DAMPING: 0.02; 0.05; 0.07; 0.10  
NODAL POINT 412  
COMPONENT Y



СПЕКТРИ НА РЕАГИРАНЕ ЗА УСКОРЕНИЕ  
ЛОКАЛНИ ЗЕМЕТРЕСЕНИЯ, ОБВИВКИ  
ХОГ  
ЗАТЪХВАНЕ: 0.02; 0.05; 0.07; 0.10  
ВЪЗЕЛ 412, КОМПОНЕНТА Y

Фиг. П1-16 Спектри на реагиране. Въздействие - локални земетр. Възел 412

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЕЛИЦА П2-16  
БЪЛЖНИ СПЕКТРИ НА РЕАГИРАНЕ - ЛОКАЛНИ ЗЕМЕТРЕСЕНИЯ  
ВЪЗЕА 412

Hz	L			T			V					
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
.20	.0167	.0156	.0149	.0142	.0184	.0170	.0163	.0153	.0188	.0173	.0164	.0153
.40	.0173	.0163	.0163	.0162	.0184	.0170	.0163	.0153	.0200	.0181	.0172	.0155
.60	.0376	.0334	.0331	.0293	.0196	.0186	.0182	.0181	.0243	.0213	.0198	.0182
.80	.0642	.0393	.0331	.0293	.0787	.0395	.0363	.0325	.0383	.0294	.0243	.0218
1.00	.0642	.0473	.0415	.0362	.1041	.0792	.0737	.0672	.0586	.0415	.0287	.0287
1.20	.0805	.0684	.0664	.0634	.1041	.0792	.0737	.0672	.0856	.0415	.0365	.0355
1.40	.2454	.1028	.0988	.0930	.1041	.0792	.0737	.0672	.0856	.0613	.0513	.0466
1.60	.2454	.1377	.1230	.1105	.1631	.1264	.1093	.0911	.0856	.0715	.0678	.0640
1.80	.5282	.1709	.1623	.1496	.3694	.1759	.1521	.1257	.1662	.0809	.0782	.0745
2.00	.5282	.2120	.2017	.1870	.3694	.2118	.1894	.1689	.2576	.1091	.0926	.0855
2.20	.5282	.2898	.2383	.2142	.6297	.4106	.3345	.2721	.2576	.1224	.1165	.1075
2.40	.6636	.3093	.2839	.2529	.8136	.4636	.3671	.2821	.2576	.1451	.1378	.1294
2.60	.6636	.4182	.3865	.3456	.8885	.4690	.3718	.2872	.2576	.1695	.1590	.1467
2.80	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.4068	.1858	.1762	.1663
3.00	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.4068	.2230	.2021	.1834
3.20	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.5816	.3696	.3022	.2027
3.40	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.5816	.3696	.3022	.2226
3.60	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.5816	.3696	.3022	.2788
3.80	.7557	.4682	.3865	.3456	.8885	.4690	.3718	.2872	.5904	.3975	.3229	.2788
4.00	.7557	.4682	.3781	.3420	.8885	.4690	.3718	.2872	.5904	.3975	.3229	.2788
4.20	.7557	.4682	.3781	.3420	.3919	.2779	.2508	.2226	.5904	.3975	.3229	.2788
4.40	.7557	.4682	.3781	.2802	.3919	.2779	.2407	.2144	.5904	.3975	.3229	.2788
4.60	.4885	.3089	.2889	.2661	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
4.80	.4885	.2918	.2764	.2577	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
5.00	.4885	.2639	.2555	.2439	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
5.20	.4885	.2380	.2350	.2292	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
5.40	.2441	.2193	.2193	.2171	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
5.60	.2441	.2108	.2097	.2084	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
5.80	.2441	.2108	.2050	.2031	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
6.00	.2441	.2108	.2047	.2007	.3919	.2779	.2407	.2073	.5904	.3975	.3229	.2840
6.20	.2441	.2108	.2047	.1992	.3919	.2779	.2407	.2073	.5904	.3686	.3224	.2840
6.40	.2441	.2108	.2047	.1972	.1948	.1665	.1589	.1546	.4751	.3441	.3165	.2840
6.60	.2441	.2108	.2047	.1936	.1948	.1665	.1589	.1523	.4751	.3441	.3165	.2840



Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-16 - Прогръждане

Hz	Л				П				V			
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
6.80	.2441	.2108	.2047	.1883	.1948	.1665	.1589	.1511	.4751	.3441	.3165	.2840
7.00	.2441	.2108	.2047	.1827	.1948	.1665	.1589	.1482	.4751	.3425	.3165	.2840
7.20	.2441	.2108	.2047	.1769	.1948	.1665	.1589	.1430	.4751	.3425	.3165	.2840
7.40	.2441	.2108	.2047	.1740	.1948	.1665	.1589	.1367	.4751	.2810	.2557	.2394
7.60	.2441	.2108	.2047	.1740	.1948	.1665	.1589	.1288	.4076	.2810	.2446	.2294
7.80	.2441	.2108	.2047	.1740	.1948	.1665	.1589	.1275	.4076	.2810	.2446	.2234
8.00	.2441	.2055	.1895	.1740	.1948	.1665	.1589	.1275	.4076	.2810	.2446	.2176
8.20	.2441	.2055	.1895	.1740	.1948	.1665	.1589	.1275	.4076	.2810	.2446	.2115
8.40	.2441	.2055	.1895	.1740	.1948	.1665	.1589	.1275	.4076	.2810	.2446	.2052
8.60	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.4076	.2810	.2446	.1991
8.80	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1934
9.00	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1877
9.20	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1838
9.40	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1810
9.60	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1776
9.80	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1735
10.00	.2441	.2055	.1895	.1740	.1948	.1507	.1380	.1275	.3765	.2810	.2446	.1686
10.20	.2441	.2055	.1895	.1740	.1944	.1507	.1380	.1275	.3765	.2810	.2446	.1633
10.40	.2441	.2055	.1895	.1740	.1944	.1507	.1380	.1275	.3765	.2810	.2446	.1587
10.60	.2441	.2055	.1895	.1740	.1944	.1507	.1380	.1275	.3765	.2810	.2446	.1539
10.80	.2441	.2055	.1895	.1740	.1944	.1507	.1380	.1275	.3765	.2810	.2446	.1492
11.00	.2441	.2055	.1895	.1740	.1944	.1507	.1380	.1275	.3765	.2810	.2446	.1446
11.20	.2441	.2055	.1895	.1740	.1916	.1506	.1380	.1275	.2233	.1518	.1482	.1400
11.40	.2441	.2055	.1895	.1740	.1888	.1425	.1275	.1275	.2233	.1478	.1435	.1356
11.60	.2441	.2055	.1895	.1740	.1888	.1425	.1270	.1102	.2233	.1432	.1392	.1313
11.80	.2441	.2055	.1895	.1740	.1888	.1425	.1270	.1102	.2233	.1401	.1348	.1301
12.00	.2441	.2055	.1895	.1740	.1888	.1425	.1270	.1102	.2233	.1401	.1348	.1301
12.20	.2441	.2055	.1895	.1432	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
12.40	.2230	.1514	.1456	.1426	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
12.60	.2230	.1514	.1456	.1421	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
12.80	.2230	.1514	.1456	.1418	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
13.00	.2230	.1514	.1456	.1414	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
13.20	.2230	.1514	.1456	.1407	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301
13.40	.2230	.1514	.1456	.1406	.1888	.1379	.1270	.1102	.2233	.1401	.1348	.1301

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-16 – Продължение

Hz	L			T			V					
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
13.60	.2230	.1514	.1456	.1403	.1385	.1182	.1127	.1102	.1593	.1348	.1348	.1301
13.80	.2230	.1498	.1456	.1395	.1385	.1182	.1127	.1102	.1593	.1348	.1348	.1301
14.00	.2230	.1465	.1456	.1383	.1385	.1182	.1127	.1102	.1593	.1348	.1348	.1301
14.20	.1947	.1459	.1456	.1372	.1385	.1182	.1127	.1102	.1557	.1348	.1348	.1301
14.40	.1947	.1459	.1456	.1372	.1385	.1182	.1126	.1100	.1557	.1348	.1348	.1301
14.60	.1947	.1459	.1456	.1372	.1385	.1182	.1120	.1097	.1557	.1348	.1348	.1301
14.80	.1724	.1459	.1456	.1372	.1385	.1182	.1111	.1093	.1557	.1348	.1348	.1301
15.00	.1724	.1459	.1456	.1372	.1385	.1182	.1104	.1089	.1557	.1348	.1348	.1301
15.20	.1724	.1459	.1456	.1372	.1385	.1182	.1104	.1089	.1373	.1297	.1297	.1297
15.40	.1724	.1459	.1456	.1372	.1385	.1182	.1104	.1089	.1297	.1297	.1297	.1297
15.60	.1724	.1459	.1456	.1372	.1385	.1182	.1104	.1089	.1188	.1179	.1177	.1174
15.80	.1724	.1459	.1456	.1372	.1255	.1104	.1104	.1089	.1184	.1176	.1174	.1170
16.00	.1724	.1459	.1456	.1372	.1255	.1104	.1104	.1089	.1178	.1173	.1170	.1167
16.20	.1724	.1459	.1456	.1372	.1255	.1104	.1104	.1089	.1173	.1170	.1167	.1164
16.40	.1724	.1459	.1456	.1372	.1255	.1104	.1104	.1089	.1168	.1167	.1164	.1161
16.60	.1724	.1459	.1456	.1372	.1255	.1104	.1104	.1089	.1165	.1164	.1164	.1161
16.80	.1724	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1165	.1161	.1159	.1155
17.00	.1594	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1165	.1159	.1156	.1152
17.20	.1594	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1165	.1157	.1154	.1150
17.40	.1594	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1164	.1154	.1151	.1147
17.60	.1594	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1161	.1151	.1148	.1144
17.80	.1594	.1459	.1411	.1372	.1255	.1104	.1104	.1089	.1161	.1151	.1148	.1144
18.00	.1594	.1459	.1411	.1372	.1124	.1104	.1104	.1089	.1155	.1145	.1145	.1141
18.20	.1594	.1459	.1411	.1372	.1124	.1104	.1104	.1089	.1149	.1145	.1142	.1139
18.40	.1450	.1450	.1372	.1372	.1124	.1104	.1104	.1089	.1142	.1141	.1139	.1136
18.60	.1450	.1450	.1372	.1372	.1124	.1104	.1104	.1089	.1138	.1138	.1136	.1134
18.80	.1386	.1372	.1372	.1372	.1124	.1027	.1025	.1024	.1135	.1135	.1133	.1131
19.00	.1386	.1299	.1299	.1299	.1124	.1027	.1021	.1021	.1133	.1132	.1131	.1129
19.20	.1386	.1297	.1297	.1297	.1124	.1027	.1020	.1018	.1131	.1129	.1128	.1126
19.40	.1386	.1294	.1294	.1294	.1107	.1027	.1020	.1016	.1129	.1127	.1126	.1124
19.60	.1386	.1293	.1293	.1293	.1107	.1027	.1020	.1014	.1127	.1125	.1123	.1122
19.80	.1386	.1291	.1291	.1291	.1107	.1027	.1020	.1014	.1126	.1122	.1121	.1120
20.00	.1386	.1291	.1289	.1289	.1107	.1027	.1020	.1014	.1124	.1120	.1119	.1117
20.20	.1386	.1291	.1288	.1288	.1107	.1027	.1020	.1014	.1121	.1118	.1116	.1115
					.1107	.1027	.1020	.1014	.1116	.1113	.1112	.1111

ТАБЛИЦА П2-16 – Продължение

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-16 – Прогръжение

Hz	L			T			V					
	28	58	78	108	28	58	78	108	28	58	78	108
20.40	.1386	.1291	.1288	.1286	.1089	.1027	.1020	.1014	.1114	.1110	.1109	.1109
20.60	.1386	.1291	.1288	.1285	.1089	.1027	.1020	.1014	.1114	.1107	.1107	.1107
20.80	.1386	.1291	.1287	.1284	.1089	.1027	.1020	.1014	.1114	.1105	.1105	.1105
21.00	.1328	.1291	.1286	.1283	.1089	.1027	.1020	.1014	.1114	.1104	.1104	.1104
21.20	.1312	.1291	.1285	.1281	.1041	.1027	.1020	.1014	.1114	.1102	.1102	.1102
21.40	.1312	.1289	.1284	.1280	.1041	.1027	.1020	.1014	.1114	.1101	.1101	.1101
21.60	.1311	.1286	.1281	.1278	.1041	.1027	.1020	.1014	.1114	.1101	.1100	.1100
21.80	.1306	.1284	.1279	.1277	.1041	.1027	.1020	.1014	.1114	.1101	.1099	.1099
22.00	.1303	.1280	.1277	.1275	.1041	.1027	.1020	.1014	.1114	.1101	.1098	.1098
22.20	.1303	.1276	.1274	.1274	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1097
22.40	.1303	.1276	.1272	.1272	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1096
22.60	.1303	.1276	.1271	.1271	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1096
22.80	.1303	.1276	.1270	.1270	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1096
23.00	.1303	.1276	.1270	.1269	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1095
23.20	.1303	.1276	.1270	.1268	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1095
23.40	.1303	.1276	.1270	.1268	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1095
23.60	.1303	.1276	.1270	.1267	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1095
23.80	.1303	.1276	.1270	.1267	.1041	.1027	.1020	.1014	.1114	.1101	.1097	.1095
24.00	.1303	.1276	.1270	.1266	.1041	.1027	.1020	.1014	.1113	.1100	.1097	.1095
24.20	.1303	.1276	.1270	.1266	.1041	.1027	.1020	.1014	.1110	.1099	.1097	.1094
24.40	.1300	.1276	.1270	.1266	.1041	.1027	.1020	.1014	.1107	.1099	.1097	.1094
24.60	.1299	.1276	.1270	.1266	.1041	.1027	.1020	.1014	.1105	.1099	.1097	.1094
24.80	.1296	.1276	.1269	.1264	.1041	.1027	.1020	.1014	.1105	.1099	.1097	.1093
25.00	.1294	.1275	.1268	.1264	.1041	.1027	.1020	.1014	.1105	.1099	.1097	.1093
25.20	.1288	.1272	.1267	.1263	.1041	.1027	.1020	.1014	.1105	.1099	.1097	.1093
25.40	.1285	.1269	.1266	.1262	.1041	.1027	.1020	.1014	.1105	.1098	.1097	.1092
25.60	.1280	.1265	.1264	.1261	.1041	.1027	.1020	.1014	.1105	.1097	.1097	.1091
25.80	.1277	.1262	.1262	.1260	.1041	.1027	.1020	.1014	.1105	.1097	.1097	.1091
26.00	.1277	.1260	.1260	.1259	.1041	.1027	.1020	.1014	.1105	.1097	.1097	.1090
26.20	.1277	.1258	.1258	.1258	.1041	.1027	.1020	.1014	.1105	.1097	.1097	.1089
26.40	.1277	.1258	.1257	.1257	.1041	.1027	.1020	.1014	.1103	.1097	.1097	.1088
26.60	.1277	.1258	.1256	.1256	.1041	.1027	.1020	.1014	.1099	.1097	.1097	.1087
26.80	.1277	.1258	.1255	.1255	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1086
27.00	.1277	.1258	.1255	.1255	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1086

Спектри на реагиране за укрепената конструкция на ХОГ

ТАБЛИЦА П2-16 - Продължение

Hz	L			T			V					
	2%	5%	7%	10%	2%	5%	7%	10%	2%	5%	7%	10%
27.20	.1277	.1258	.1255	.1254	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1085
27.40	.1277	.1258	.1255	.1254	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1084
27.60	.1277	.1258	.1255	.1253	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
27.80	.1277	.1258	.1255	.1253	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
28.00	.1277	.1258	.1255	.1252	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
28.20	.1275	.1258	.1254	.1251	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
28.40	.1270	.1257	.1254	.1251	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
28.60	.1267	.1256	.1253	.1250	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
28.80	.1267	.1254	.1252	.1250	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
29.00	.1267	.1253	.1251	.1249	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
29.20	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
29.40	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
29.60	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
29.80	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
30.00	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
30.20	.1267	.1253	.1250	.1248	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
30.40	.1267	.1253	.1250	.1247	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
30.60	.1267	.1253	.1250	.1247	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
30.80	.1267	.1253	.1249	.1247	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
31.00	.1267	.1253	.1249	.1246	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
31.20	.1267	.1253	.1249	.1246	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
31.40	.1267	.1253	.1249	.1245	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
31.60	.1267	.1253	.1249	.1245	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
31.80	.1267	.1253	.1249	.1245	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
32.00	.1267	.1253	.1249	.1245	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
32.20	.1267	.1253	.1248	.1244	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
32.40	.1267	.1253	.1248	.1243	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
32.60	.1267	.1253	.1247	.1242	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
32.80	.1267	.1252	.1247	.1241	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
33.00	.1266	.1251	.1246	.1241	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083
33.20	.1264	.1250	.1244	.1240	.1041	.1027	.1020	.1014	.1097	.1097	.1097	.1083